

COPING WITH ADHD: EXPERIENCES OF PREGNANT WOMEN

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ABSTRACT

Jessica Grantham Sparrow: Coping with ADHD: Experiences of Pregnant Women
(Under the direction of Grace Hubbard)

First-line treatment in the management of attention-deficit hyperactivity disorder (ADHD) is stimulant medication; however, there is insufficient data regarding the safe use of stimulants during pregnancy. Women with ADHD who become pregnant and were managed pre-pregnancy with stimulants are generally advised to discontinue this medication. There is limited description in the literature of how ADHD manifests during pregnancy, resulting in limited guidance to providers for symptom management and best practices in their care of pregnant women with ADHD. The aim of this project is to identify influences on the process of coping and health-care decision making for women with ADHD during their pregnancy. A mixed-methods approach is used, providing qualitative data from two extensive interviews and qualitative data from 33 respondents to a Qualtrics™ online survey. The findings were analyzed separately and then compared for contrasts and similarities.

Quantitative and qualitative sources support the importance of multi-contextual factors as facilitators for or barriers to health-care decision-making and the coping process. Both interviewees and survey respondents identified challenges they experienced while coping with ADHD symptoms during pregnancy. Interestingly, the way in which women assessed their ability to cope was not through their strengths, but in what they identified as a weakness. A

major factor in the emotional and cognitive processes necessary for health-care decision-making is the woman's knowledge of health-care choices. The experiences reported by these women indicate the importance the health-care provider as the central access point for information about management and care of ADHD during pregnancy. This data suggests there are additional areas in which provider knowledge can be helpful in primary support systems and recognition of the influence of contextual factors on the process of coping. Both quantitative and qualitative data acknowledge immediate family members and significant others or spouses as key individuals on whom the pregnant women rely for support.

The information gained from this study may be used in the development of a group-therapy curriculum focused on the themes identified in the data and in the evidenced-based literature.

To all the Naomi's and Caroline's, this work is dedicated to you.

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TABLE OF CONTENTS

TABLE OF CONTENTS	VII
LIST OF TABLES	X
LIST OF FIGURES	XI
LIST OF ABBREVIATIONS	XII
CHAPTER 1: INTRODUCTION.....	1
BACKGROUND AND SIGNIFICANCE.....	3
PROBLEM STATEMENT	6
STUDY AIMS	8
CHAPTER 2: REVIEW OF LITERATURE	9
HORMONES AND STRESS	10
MANAGEMENT OPTIONS DURING PREGNANCY	12
<i>Stimulant Medications.</i>	13
<i>Psychotherapy</i>	15
<i>Dialectical Behavior Therapy</i>	16
<i>Mindfulness.</i>	17
<i>Physical Exercise.</i>	18
<i>Summary of Management Options</i>	19
CHAPTER 3: CONCEPTUAL FRAMEWORK.....	20

THE COPING IN DELIBERATION (CODE) FRAMEWORK	20
CHAPTER 4: METHODS	26
DESIGN	26
SAMPLE.....	26
SETTING	28
DATA COLLECTION	28
<i>Qualitative</i>	28
<i>Quantitative</i>	29
CHAPTER 5: DATA ANALYSIS	30
<i>Qualitative</i>	30
<i>Quantitative</i>	32
CHAPTER 6: RESULTS	34
LACK OF PRENATAL PATIENT-CENTERED CARE.....	34
PRIMARY SUPPORT	36
MATERNAL ROLE.....	38
DEMOGRAPHICS	40
QUESTIONS ABOUT COPING	41
PRIMIPAROUS AND MULTIPAROUS WOMEN	44
CHAPTER 7: DISCUSSION	53
<i>Identified Multi-contextual Factors.</i>	54
<i>Perceptions of Coping</i>	54

<i>Emotional and cognitive processes in decision making</i>	<i>55</i>
<i>Identification of sources of social and emotional support during pregnancy</i>	<i>56</i>
<i>Provider specific influences.....</i>	<i>56</i>
<i>Application of Code framework.....</i>	<i>56</i>
LIMITATIONS.....	58
RECOMMENDATIONS FOR FURTHER STUDY	58
CHAPTER 8: CONCLUSION.....	60
APPENDIX 1: CODE FRAMEWORK	61
APPENDIX 2: APPLICATION OF CODE	62
APPENDIX 3: ANNOUNCEMENT TO PROVIDERS	63
APPENDIX 4: CONSENT	64
APPENDIX 5: SEMI-STRUCTURED INTERVIEW.....	69
APPENDIX 6: SURVEY QUESTIONS.....	71
APPENDIX 7: QUALITATIVE ANALYSIS.....	80
APPENDIX 8: CODE MANUAL	81
APPENDIX 9: NAOMI CODE APPLICATION AND SUMMARY.....	84
APPENDIX 10: CAROLINE CODE APPLICATION AND SUMMARY	96
APPENDIX 11: THEME CONFIRMATION.....	104
REFERENCES.....	112

LIST OF TABLES

Table 1: Demographics	40
Table 2: Diagnosis, Treatment and Co-Morbidities	41
Table 3: Managing ADHD.....	42
Table 4: Conversations with healthcare provider and impact of symptoms	43
Table 5: Support Needs.....	48

LIST OF FIGURES

Figure 1: Prescribed Medications Taken During Pregnancy	45
Figure 2 : Anxiety or Depression Symptoms Experienced.....	46
Figure 3: Discussed these symptoms with a provider.....	47
Figure 4: Treatment for ADHD during Pregnancy Discussed.....	49
Figure 5: Concern about management of ADHD symptoms.....	50
Figure 6: Satisfied with how your provider addressed your concerns.....	51

LIST OF ABBREVIATIONS

AAFP	American Academy of Family Physicians
ACNM	American College of Nurses-Midwives
ACOG	American College of Obstetricians and Gynecologists
ADHD	Attention-Deficit Hyperactivity Disorder
AWHONN	Association of Women's Health Obstetric and Neonatal Nurses
CBT	Cognitive Behavioral Theory
CODE	Coping in Deliberation
DBT	Dialectical Behavioral Theory
DNP	Doctor of Nursing Practice
FDA	The United States Food and Drug Administration
IOM	Institute of Medicine
PMHNP	Psychiatric Mental Health Nurse Practitioner
RBT	Randomized Controlled Trials

CHAPTER 1: INTRODUCTION

Attention-Deficit/Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder that manifests in childhood with predominate symptoms of hyperactivity and inattention (American Psychiatric Association, 2013). Initially considered to be a disorder solely confined to childhood and adolescence, recent research has identified that impairments can persist throughout the lifespan (Hechtman, 1999; Hinshaw et al., 2012; Klein et al., 2012). There is strong empirical evidence that suggests pharmacological and non-pharmacological treatments are efficacious in the management of adult ADHD symptoms (Shaw et al., 2012). Current guidelines recommend stimulant medication as the first-line treatment for both men and women with ADHD. However, due to the lack of empirical testing when used during pregnancy, the safety profile is not fully understood; therefore, it is recommended that the medication is discontinued while the woman is pregnant and breastfeeding (Anderson, 1995; Besag, 2014). In addition, there is limited literature that describes the experience of women with ADHD who become pregnant (Besag, 2014; Freeman, 2014).

This gap in knowledge creates a challenge for providers in the clinical setting, especially when the mother-to-be faces the dilemma of crucial health care decisions for herself and her unborn child. When it comes to women's health issues, most women prefer to be involved in the decision-making process (Hundley, Ryan, & Graham, 2001; O'Cathain, Thomas, Walters, Nicholl, & Kirkham, 2002; Patel & Wisner, 2011). However, women are often left out of conversations surrounding their pregnancy or labor and birth care (Thompson & Miller, 2014).

Within the United States, this issue has gained recognition, and maternity care professional organizations, such as American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), American College of Nurse- Midwives (ACNM), and the Association of Women's Health Obstetric and Neonatal Nurses (AWHONN), have joined to emphasize the importance of patient-centered care (Lawrence et al., 2012). In a recent joint statement these organizations encouraged providers to incorporate patient-centered care in their practice stating "decisions about interventions should incorporate the woman's personal values and preferences and should be made only after she has had enough information to make an informed choice, in partnership with her care team" (Lawrence et al., 2012, p. 147). This statement emphasizes the importance of shared information that facilitates patient involvement in healthcare decision making, especially when it comes to intra-partum care.

Providers require greater knowledge of the woman's experience of coping with ADHD symptoms when she no longer has support from psychopharmacology during her pregnancy. This knowledge is imperative for the process of shared decision-making and patient-centered care. A greater understanding of this process will facilitate discussion between the clinician and the pregnant woman regarding decisions surrounding her coping choices and the management of her symptoms (Barry & Edgman-Levitan, 2012). Management of ADHD during pregnancy is a complex process and requires sensitivity of clinicians to the preferences and values of their patients to provide effective care. This DNP project will examine the process of coping in the context of healthcare decision-making and the experience of women with ADHD who became pregnant.

Background and Significance

The etiology of ADHD has been linked to an interplay of genetic and environmental factors that disrupt dopamine and norepinephrine neurotransmission in a variety of brain structures (Kieling & Rohde, 2012). Twin studies around the world have revealed high heritability of ADHD validating the genetic component across ethnicities (Nikolas & Burt, 2010; Thapar, Cooper, Eyre, & Langley, 2013). Research to improve understanding of the pathogenesis in ADHD has been on the rise due to increased prevalence in both children and adults (Akinbami, Liu, Pastor, & Reuben, 2011; Centers for Disease Control and Prevention, 2005).

The 2012 Health and Vital Statistics report estimates the prevalence of ADHD in children and adolescents at 9.5 percent in the United States (Akinbami et al., 2011; Bloom, Jones, & Freeman, 2012). According to The National Co-Morbidity survey in 2006, ADHD affects roughly 4.4 percent of adults in the United States and 5.29 percent worldwide (Kessler et al., 2006; Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007; Polanczyk & Rohde, 2007). The literature pertaining to the gender distribution among adults with ADHD is difficult to quantify due to the lack of consistency among the methodologies used to estimate the prevalence (Knight et al., 2014). Therefore, this inconsistency becomes a barrier in trying to translate and interpret the prevalence of ADHD in adult women. However, two recent studies have yielded similar results indicating a slightly higher proportion of men among adults with ADHD (Knight et al., 2014; Montejano, Sasane, Hodgkins, Russo, & Huse, 2011). In addition, this same data also revealed consistency of a higher incidence rate, or new cases, of women with ADHD when compared to men (Knight et al., 2014; Montejano et al., 2011; Simon, Czobor, Bálint, Mészáros, & Bitter, 2009). This may suggest that providers are becoming increasingly more aware of the

characteristics specific to ADHD presentation in women. To date, the best estimate of prevalence among adult women with ADHD was reported by Staller and Faraone (2006) using a conservative overall prevalence of 3% and sex ratio of 5:1, males to females. Using these numbers they estimated that least 1 million women in the United States and 32 million worldwide are affected by ADHD. Unfortunately, there is no literature or data depicting the number of women impacted by their ADHD symptoms when they become pregnant (Freeman, 2014).

In an effort to demonstrate the potential impact of pregnancy among ADHD women, an estimation could be calculated using the estimated prevalence given by Staller and Faraone (2006) and the most recent birth rate calculation from 2011, 63.2 live births per 1,000 women (Martin, Hamilton, Ventura, Osterman, & Mathews, 2013). Assuming that all ADHD women had the desire and ability to become pregnant, then roughly 6.32% of women with ADHD would be faced with the decision of how to manage their symptoms during pregnancy based on my own calculation.

Presentation of symptoms in adulthood varies considerably from those seen in children. Children usually display symptoms of hyperactivity, distractibility, inattention, and impulsivity (Pieroth, 2008). Adults typically present with symptoms of functional and executive impairments, such as forgetfulness, inability to concentrate, and poor organizational skills (Pieroth, 2008). Executive functioning involves five areas of daily behaviors: time management, organization, motivation, concentration, and self-discipline (Weir, 2012). A recent study revealed that 89 to 98 percent of adults with ADHD are impaired in all five areas of executive functioning (Barkley & Murphy, 2011). Males often present with externalizing features such as hyperactive/impulsive symptoms, while females present with internalizing

features associated with anxiety, depressive symptoms, or social withdrawal (Quinn, 2008). The increased risk of anxiety and depression coupled with the impairments in memory and organization known to women with ADHD present additional challenges for the woman who is also adjusting to the physiologic and psychological changes that accompany pregnancy (Freeman, 2014).

The majority of patients with ADHD are treated across the lifespan with the first line treatment of stimulant medication (Seixas, Weiss, & Müller, 2012). All first-line medications act upon dopamine receptors within the neurotransmitter system to increase dopaminergic activity in the frontal lobe of the brain (Stahl, 2013; Waite, 2010). The most commonly prescribed stimulants are methylphenidate (Ritalin), amphetamine salts (Adderall), and lisdexamfetamine (Vyvanse) (Stahl, 2013; Waite, 2010). These medications reduce symptoms of ADHD while improving the process of working memory and other cognitive functioning (Ceraudo, Vannucchi, Massei, Perugi, & Dell'Osso, 2012). When left untreated, adult ADHD can have significant lasting negative outcomes (Fredriksen et al., 2014; Stern, Pollak, Bonne, Malik, & Maeir, 2013). Women who choose to forego psycho-pharmacological support throughout the months of pregnancy and breastfeeding may be at greater risk for development of problems related to their job performance and interpersonal relationships (Alderson, Kasper, Hudec, & Patros, 2013).

It is thought that a lack of sensitivity surrounding the distinctive symptom presentation in women, as well as other confounding factors, may contribute to an under-representation of women with ADHD. A rise in incidence rate is reflective of the efforts in education and research (Mahone, 2010; Nussbaum, 2012). Inadequate knowledge of the complexities surrounding ADHD in women increases their susceptibility to un-diagnosis or misdiagnosis. Co-morbidities,

such as depression and anxiety, are associated with improper diagnosis in childhood and subsequently can lead to the development of poor self-image and low self-esteem as adults (Mahone, 2010; Nussbaum, 2012; Rasmussen & Levander, 2009; Rucklidge, 2010). This is consistent with clinical presentation reports, in which women endorsed more symptoms and displayed more impairment from impulsivity, anxiety and depression, as compared with men (Quinn, 2008). Recent literature has also shown a correlation between obesity and ADHD among women, another confounding factor clouding the clinical picture (Cortese, Faraone, Bernardi, Wang, & Blanco, 2013). In clinical practice, recognition of ADHD in adulthood is still considered new, and management of this disorder can be challenging for many clinicians (Quintero, Balanza-Martinez, Correias, Soler, & Grp, 2013).

A recent report from Express Scripts revealed an 85% increase of prescribed stimulant medication usage among women aged 24 to 28 from 2008 to 2012 as compared with the 36% increase seen among all adults (Armstrong, 2014). The astounding rise in stimulant use within this age group, coupled with the fact that they also have the highest rate of pregnancy, poses a significant problem (Ventura, Curtin, Abma, & Henshaw, 2012).

The United States Food and Drug Administration (FDA) classifies ADHD medications as Pregnancy Risk category “C”, which are to be used only when the benefit to the mother outweighs the risk to the unborn child (Stahl, 2013). Medications labeled “Category C” have shown adverse effects in animal studies, and there are no human data available (Gunatilake & Patil, 2013). This gap in the literature regarding how to manage ADHD when a woman becomes pregnant confounded by the complexity of pregnancy increases the likelihood that healthcare for affected women will be inconsistent and possibly misinformed (Facchiano & Snyder, 2012).

Problem Statement

Continuity of care in women with ADHD is being interrupted as a result of the limited information about the presentation of the disorder and best practices for management during pregnancy (Freeman, 2014). Women with ADHD are currently faced with the significant decision of how to cope with their illness when recommendations to discontinue their stimulant medications are followed (Besag, 2014). There is an abundance of literature to support shifts in healthcare to more patient-centric care with quality-driven outcomes (Millenson, 2014); yet, providers are challenged when they must continue care without evidence-based support or knowledge of their patients' needs (Sadeghi-Bazargani, Tabrizi, & Azami-Aghdash, 2014). Without adequate knowledge, providers may face barriers in their efforts to implement patient-centered care, especially when women prefer to be active participants in decisions regarding their healthcare during pregnancy (Haarenten et al., 2014; van Empel et al., 2011). This presents a potential conflict between patient and provider due to a disconnect between the provider's available resources and knowledge of the patients' needs (Bright, Kayes, Worrall, & McPherson, 2014). It is important that barriers hindering the facilitation of patient involvement are removed, or at least minimized as the evidence supports that patient involvement improves quality of care (Bertakis & Azari, 2011; Lee & Lin, 2010).

Considering the prevalence of ADHD within adult populations and the severity of impairment seen in women, it is important to gain a comprehensive understanding of how women with ADHD cope with symptoms (Biederman et al., 2010; Nussbaum, 2012; Polanczyk, Gwillcutt, Salum, Kieling, & Rohde, 2014). Information regarding how women cope and make decisions regarding management of their disorder will provide a greater understanding of patient preference, and promote preference-sensitive conversations surrounding management options between patient and provider (Chewning et al., 2012; Treweek et al., 2013). Exploration of the

relationship between coping and decision-making can provide a greater understanding of the dynamics between women, cofounding factors and the management of their ADHD during pregnancy. This DNP project will contribute to existing literature regarding the process of coping in the context of healthcare decision-making and the experience of women with ADHD who became pregnant.

Study Aims

The specific aims of this study are to:

1. Identify multi-contextual factors that influence the process of coping with ADHD during pregnancy.
2. Explore women's perceptions of their coping with symptoms of ADHD during pregnancy.
3. Identify the cognitive and emotional processes within the context of healthcare decision-making experience.
4. Identify sources of social and emotional support during pregnancy for women with ADHD.
5. Identify provider specific influences with shared decision-making during the process of coping for women with ADHD.

CHAPTER 2: REVIEW OF LITERATURE

A review of the literature is necessary to identify those influential variables that guide a woman with ADHD in contemplating her management options. Specifically, a review is conducted of how ADHD symptoms manifest in pregnant women and the confounding factors (hormones and perinatal stress) that interplay and influence the antepartum experience. Secondly, possible treatment and management options, a valuable component in the decision-making process are evaluated. Recognition of these variables, which may be less modifiable by a provider or primary support-giver, can facilitate a distinction among other influential variables that could be important to the woman with ADHD in her process of coping and deliberation. Exploration of ADHD in the context of pregnancy, and identification of influential components of decision-making when weighing the risk/benefit of health care choices is required to gain a greater understanding of the pregnant woman's coping process.

The data addressing ADHD symptomology in pregnancy is limited and lacks any systematic studies (Freeman, 2014). A single study examined the relationship between symptoms consistent with an ADHD diagnosis and co-morbidities' (Ninowski, Mash, & Benzies, 2007). Results revealed a positive correlation between comorbidities of anxiety and depression, and the presence of ADHD symptoms in expectant mothers; however, an ADHD diagnosis was never established by a provider, and only inferred, based on the answers to questionnaires

(Ninowski et al., 2007). Literature relevant to ADHD in pregnant women acknowledges the lack of research unlikely related to the risk potential and overall limited awareness of ADHD in women. Experts emphasize the need for further study to gain a better understanding of symptomatology during pregnancy (Besag, 2014; Dideriksen, Pottegard, Hallas, Aagaard, & Damkier, 2013; Hærvig, Mortensen, Hansen, & Strandberg-Larsen, 2014; Nonacs, 2014).

There are inconclusive results from studies examining cognitive deficits directly linked to the physiology associated with pregnancy (including hormonal changes), and there are no published reports related to cognitive deficits in pregnant women with ADHD (Freeman, 2014). However, there are animal and human studies that show a positive correlation between changes in hormones and cognitive deficits. Animal models suggest a significant relationship between female reproductive hormones and neurotransmitters having a direct correlation to mood disorders and cognitive deficits (Harsh, Meltzer-Brody, Rubinow, & Schmidt, 2009; Martel, Klump, Nigg, Breedlove, & Sisk, 2009).

Hormones and Stress

Estrogen is one of many hormones that dramatically increase during pregnancy. It has been estimated that it would take a non-pregnant woman 150 years to produce the same amount of cumulative estrogens produced during a normal gestational time frame of nine months (Becker, 2001; Moore, 2013). Female hormone fluctuations across the lifespan have been shown to increase vulnerability to mood disorders (Freeman, 2010; O'Hara, 2009; Rapkin & Akopians, 2012).

This drastic hormonal shift, along with other associated hormonal changes seen in pregnancy, has been shown to effect cognition in women, with or without mental illness. Research supports cognitive impairment has been linked to alterations in steroid and peptide

hormones (Workman, Barha, & Galea, 2012). A comparative study examining cognition in pregnant and non-pregnant women found lower working memory scores and processing speeds in women who were pregnant or in the post-partum period (Henry & Sherwin, 2012). Human studies have suggested a negative correlation between estrogen in the brain and conductivity of neurotransmission (Buckwalter, 1999; Fink, Sumner, Rosie, Grace, & Quinn, 1996; Onyper, Searleman, Thacher, Maine, & Johnson, 2010). During adolescence, girls experience a surge of estrogen associated with puberty; in response, the brain produces more dopamine receptors in the brain (Arnold, 1996). This may account for the rise in the severity of inattention symptoms seen in adolescent girls due to the increase of dopamine receptors and decreased dopaminergic activity associated with ADHD (Nussbaum, 2012; Quinn & Nadeau, 2002). From this data, it is plausible to suggest that women with ADHD are perhaps more susceptible to inattention symptoms during their pregnancy.

Stress is also a factor known to impact pregnant women emotionally and physically (Glover, 2014; Graignic-Philippe, Dayan, Chokron, Jacquet, & Tordjman, 2014; Richetto & Riva, 2014). Evidence supports increased maternal stress is associated with negative outcomes for the fetus (Ibanez et al., 2012; Meltzer-Brody & Stuebe, 2014). The impact of stress during the prenatal period can have negative outcomes, including spontaneous abortion and preterm labor and birth (Grizenko, 2008; O'Connor, Monk, & Fitelson, 2014).

For pregnant women with ADHD, management of ADHD becomes especially important, as untreated symptoms are associated with poor outcomes, vulnerability to comorbidities, and perceived stress (Gjervan, Torgersen, Nordahl, & Rasmussen, 2012; Matthies, Philipsen, & Svaldi, 2012; Quinn, 2008). ADHD is associated with neuropsychological deficits (attention, working memory, task switching, inhibition) that have a demonstrated relationship with

occupational impairments and overall decreased quality of life (Fredriksen et al., 2014).

Pregnancy is associated with a variety of stressors such as the emotional aspect of motherhood and the physical changes that accompany pregnancy. Women with ADHD may be at a disadvantage to handle these stressors due to their limited coping skills, and may have increased susceptibility to perinatal depression or anxiety (Garcia et al., 2012; Skirrow & Asherson, 2013). Antepartum stress, whether perceived or measured biologically, is linked to preterm labor, shorter gestation, and a negative impact on emotional and cognitive child development (Richetto & Riva, 2014). However, recent studies have reported strong evidence to support maternal and fetal benefits associated with psychosocial interventions with the mother during the antenatal period (Sockol, Epperson, & Barber, 2011; Spinelli et al., 2013).

In summary, women with ADHD who are pregnant are vulnerable to a greater number of stressors, especially when standard ADHD treatment is no longer considered safe. Without efficacious treatment modalities, pregnant women with ADHD are at greater risk of prenatal maternal stress, which has been linked with negative impacts on pregnancy outcomes (Glover, 2014; Ronald, Pennell, & Whitehouse, 2010; Talge, Neal, & Glover, 2007). Therefore, increased knowledge of how women with ADHD cope during pregnancy will guide the provider to more effective patient-centered care.

Management Options During Pregnancy

Currently, there are no standard treatment recommendations or clinical guidelines for management of ADHD in women, or management of symptoms for those who become pregnant, or for management of confounding factors that precipitate when delivering care during this transitional time (Freeman, 2014). When first-line treatment recommendations are not appropriate for the individual adult, most clinical practice guidelines recommend psychosocial

interventions such as psychotherapeutic modalities rooted in a cognitive approach (Seixas, Weiss, & Muller, 2012). However, none of these address the variations in presentation of ADHD in women, nor how to manage the disorder when a woman with ADHD becomes pregnant. In addition, these guidelines conflict with recommendations by women's health specialists that suggest discontinuation of any medication that is unnecessary (Lockwood & Magriples, 2014).

Stimulant Medications. There are a few published studies examining adverse outcomes of human fetal exposure to stimulants during the treatment of ADHD. Studies have focused primarily on methylphenidate and amphetamines. The majority of studies looking at amphetamine exposure revealed inconsistencies in the amounts and routes administered, and included subjects who abused substances (Besag, 2014; Humphreys, Garcia-Bournissen, Ito, & Koren, 2007). Therefore, it would be difficult to generalize this information to make treatment decisions.

Methylphenidate is the active metabolite in Concerta and Ritalin. Methylphenidate is derived from the amphetamine family, and studies have established that amphetamines cross the placental barrier in animals, but no data is available on fetal exposure (Burchfield, Lucas, Abrams, Miller, & DeVane, 1991; Shah & Yates, 1978). Characteristics of drugs that cross the placenta are not protein-bound, are lipid-soluble, weakly acidic, hold a molecular weight less than 500 daltons and have a long half-life (Taddio, 2001). Methylphenidate has low-protein-binding capability and a molecular weight of 269.8, suggesting that it could cross the placental barrier (Taddio, 2001). Studies in rats and rabbits have shown decreased gestational weight from methylphenidate exposure (Beckman, Schneider, Youreneff, & Tse, 2008). The limited amount

of relevant data does not suggest an overt risk if exposure to methylphenidate occurs; however, there is no information on fetal brain development when exposure does occur.

Two recent studies examined adverse outcomes and exposure in utero to methylphenidate (Haervig, Mortensen, Hansen, & Strandberg-Larsen, 2014; Pottegård et al., 2014). One study from Denmark compared the rate of congenital defects in children exposed to methylphenidate during the first semester versus those who were not exposed (Pottegård et al., 2014). The research yielded no statistically significant difference between the two groups, suggesting that in-utero exposure posed no greater risk than with those among the general population. Another recent study in Denmark examined stimulant exposure, at any point in 480 pregnancies, stimulants included methylphenidate, modafinil and amoxetine (Haervig et al., 2014). Analysis of data from the national registry yielded similar results, finding no increased risk associated with congenital defects with stimulant exposure (Haervig et al., 2014). However, this study did find statistical significance between spontaneous or therapeutic abortion rates and fetal exposure to stimulants (Haervig et al., 2014). Also of interest in this study, women with ADHD were found to be socially disadvantaged regardless of their stimulant use during pregnancy, therefore results are not generalizable (Haervig et al., 2014). A recent systematic review of fetal methylphenidate exposure used existing published data to review adverse outcomes. This study identified 180 exposures, and found 4 exposures (2.2%) had major malformations, which was comparable to the relative risk seen in the general population (Dideriksen et al., 2013).

There is limited information on the effects of methylphenidate and amphetamine in infants who are breastfed. A small study of infants, 3 to 10 months in age, examined the plasma levels obtained from three infants exposed to dexamphetamine (brand name Dextrostat or Dexedrine) from breastmilk (Ilett, Hackett, Kristensen, & Kohan, 2007). Samples were taken

less than four hours from maternal intake of dexamphetamine. In one infant dexamphetamine was not detected, while the other two infants showed concentrations of plasma dexamphetamine at 6% and 14% (Ilett et al., 2007). A handful of case reports presented information on the effects of breastfeeding mothers while concurrently taking methylphenidate (Bolea-Alamanac, Green, Verma, Maxwell, & Davies, 2013; Hackett, Ilett, Kristensen, Kohan, & Hale, 2005; Spigset, Brede, & Zahlsen, 2007). These case reports showed that Methylphenidate was not detected in the blood samples of the infants and none of the mothers reported adverse effects in their infants from exposure (Bolea-Alamanac et al., 2013; Hackett et al., 2005; Spigset et al., 2007).

Psychotherapy. Psychosocial interventions using psychotherapeutic modalities rooted in cognitive approaches are often used as an adjunct treatment with medication when treating ADHD (Miguel Seixas et al., 2012). These treatments focus on improvement of executive functioning deficits that often accompany the overall impairments seen in adult ADHD (Barkley & Murphy, 2011). Reviews of studies that examine psychosocial interventions with ADHD in the general adult population include studies related to Cognitive Behavior Therapy (CBT), Dialectical Behavior Therapy (DBT), and Mindfulness (Solanto, 2014). Also, more recent studies have found effects of physical activity to improve cognitive deficits in the brain (Berwid & Halperin, 2012).

Cognitive Behavior Therapy. Cognitive Behavior Therapy (CBT) is grounded in reframing conscious cognitions to address maladaptive behaviors or thoughts that stem from irrational thoughts or negative associations (Knouse & Safren, 2010). For example, a repeated experience of frustration in an effort to complete a task would promote a perception of inadequacy in oneself. CBT seeks to identify patterns of negative, irrational thoughts, and to challenge the accuracy of such thoughts. Through the process, the patient learns to recognize this

maladaptive thought pattern and reframe the individual thoughts to ones that are more positive and accurate for the situation. CBT treats ADHD symptoms through the strengthening of the individual's coping skills, thereby reducing functional deficits, which are often associated with low self-efficacy (Mongia, 2012). Randomized controlled trials (RCT) evaluating the use of CBT have established efficacy as an adjunct treatment in managing residual impairments such as organizational and time management skills, neither of which are addressed by medication (Mongia, 2012; Retz, Stieglitz, Corbisiero, Retz-Junginger, & Rosler, 2012). Only recently has there been an RCT comparing CBT versus medication in ADHD to explore the significance between the two treatment options. As previously suggested, CBT and medication were effective in reducing symptoms, but CBT was independently shown to be effective without the use of medication (Weiss, 2012). All these studies demonstrated improvement in ADHD symptoms with brief episodes of treatment ranging from 14-24 weeks, with a similar sample size of approximately 50. CBT provides even more support as an effective treatment during pregnancy. However, variations in measurement tools, number of treatment sessions, study structure, lack of equally dispersed male-to-female ratio, and sample size, hinder the application of this method to a general population (Mongia, 2012).

Dialectical Behavior Therapy. (DBT) is a psychotherapy originally developed to treat Borderline Personality Disorder (Solanto, 2014). However, it has been adapted to treat ADHD because of the similarity of symptomatology such as emotional dysregulation, impulsivity, and low self-esteem (Fleming, McMahon, Moran, Peterson, & Dreessen, 2014). The adapted DBT is provided in a group setting that meets for 13 weekly sessions to discuss a different module each week (Solanto, 2014). There is limited evidence to support the efficacy of this modality used to treat ADHD adults as monotherapy (Hirvikoski et al., 2011). However, three recent RCT's

evaluating DBT involved a mixed sample of adults, with and without concurrent medication use and demonstrated a reduction in ADHD symptoms (Fleming et al., 2014; Hirvikoski et al., 2011; Philipsen et al., 2013). There are also two less systematic studies utilizing an adapted form of DBT that displayed similar results in adults (Hesslinger et al., 2002; Philipsen et al., 2007). As this approach of DBT therapy does not focus on skills of executive function, it is recommended for adults with ADHD whose predominant symptoms are impulse control and issues with maintaining healthy interpersonal relationships (Solanto, 2014).

Mindfulness. Mindfulness-based approaches use guided practice to increase awareness of thoughts and present experiences in a non-judgmental context. Meditation has been shown to regulate attention by altering neural activity, including dopamine levels, and through change of attention networks in the brain (Jha, Krompinger, & Baime, 2007; Kjaer et al., 2002; Newberg et al., 2001; Singh & Narang, 2014). Mindfulness may be used to target behavioral symptoms, inattention and impulsivity, and other secondary symptoms such as stress, depression, and anxiety (Zylowska et al., 2008). There are limited studies investigating the effect of mindfulness-based interventions that specifically target ADHD symptoms (Krisanaprakornkit, Ngamjarus, Witoonchart, & Piyavhatkul, 2010). However, in a recent pilot study with 18 ADHD adults mindfulness demonstrated efficacy for the improvement of executive functioning and emotional regulation skills (Mitchell et al., 2013). Furthermore, several studies have examined the use of mindfulness in improvement of emotion regulation and attention (Keune, Bostanov, Hautzinger, & Kotchoubey, 2013; Rubia, 2009; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). This appears to be a promising intervention for symptom management in adults with ADHD, however, the variation in study design and indication for use in higher functioning individuals would make this difficult to replicate in clinical practice.

Physical Exercise. There are no studies that examined the direct link of physical exercise on improvement of ADHD symptoms. Physical exercise has been shown to have positive short-term gains in working memory and a long-term impact on prevention of cognitive disorders such as dementia and Alzheimer's (Archer & Kostrzewa, 2012; Larson, 2008). In addition, physical exercise proves to be an effective non-pharmacological treatment for depression and anxiety symptoms, and enhances cognition (Hopkins & Bucci, 2010; McKercher et al., 2009). It is thought that the relationship between physical activity and neuropsychological findings are rooted in the brain's ability to perform neurogenesis, directly impacting the connectivity of neurotransmission and increasing protective factors, thus improving performance (Archer & Kostrzewa, 2012; Berwid & Halperin, 2012). The majority of literature evaluating the relationship between physical exercise and cognitive effects are of experimental design, using smaller sample sizes that do not have an ADHD diagnosis (Chang, Labban, Gapin, & Etnier, 2012). Studies that aimed to examine the effects of physical exercise in subjects with ADHD were predominately those testing children (Berwid & Halperin, 2012; Gapin, Labban, & Etnier, 2011; Grassmann, Alves, Santos-Galduróz, & Galduróz, 2014). A recent study was demonstrated cognitive improvement in adults with continuous exercise over four weeks; however, the participants were not evaluated for the presence of ADHD (Hopkins, Davis, Vantieghem, Whalen, & Bucci, 2012). In summary, there is sufficient support to demonstrate a significant relationship between physical exercise and improved cognition. However, due to the variety of study designs and age of participants, further research is needed with adult participants with ADHD. These studies require a more controlled study design to identify whether benefits are associated with individual physical exercise sessions, or after sustained activity.

Summary of Management Options. The literature provides adequate support for alternative treatments to support management of ADHD symptoms during pregnancy, given there is a lack of specific guidelines for this population. CBT provides the most robust empirical evidence, and also provides treatment for co-morbid symptoms. However, more research is needed to provide support for the use of CBT without medication in adults before it is considered a standard non-pharmacological treatment choice. Mindfulness and DBT continue to show promise as alternative treatment options as they have been empirically shown to alleviate symptoms in a short duration and are relatively cost effective (Goodman & Tyer-Viola, 2010; Solanto, 2014). Physical exercise, an existing recommendation during pregnancy, may also provide improvement in working memory, cognitive enhancement, and reduction in associated stress (Barenberg, Berse, & Dutke, 2011; Etnier, Nowell, Landers, & Sibley, 2006; Hopkins et al., 2012). Preliminary open studies have shown improvement in symptom management with use of physical activity in children with ADHD (Berwid & Halperin, 2012). However, there are no specific data regarding the benefit of physical exercise for adults with ADHD. It seems reasonable to suggest the limited efficacy of exercise in children would also exist for management of symptoms in adults.

CHAPTER 3: CONCEPTUAL FRAMEWORK

The Coping in Deliberation (CODE) Framework

The conceptual framework chosen for this project focuses on a preference-sensitive, decision-making process from the patient's perspective that reflects the patient's values and situation. Patient-centered care was defined in the Institute of Medicine's (IOM) report, *Crossing the Quality Chasm*, as "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions and ensuring that patient values guide all clinical decisions" (Institute of Medicine, 2001, p. 6). An essential characteristic of patient-centered care is participation of patients and families in their healthcare decisions (Institute of Medicine, 2001). Providers who provide patient-centered care must be knowledgeable and sensitive to the needs and preferences of their patients (Barry & Edgman-Levitan, 2012). Shared decision-making promotes patient involvement and is linked to positive outcomes such as reduced overall healthcare cost and greater utilization of treatment options with clear benefits (Barry & Edgman-Levitan, 2012; Veroff, Marr, & Wennberg, 2013). In an effort to better align with patients' preferences and values, the provider becomes a partner and engages in dialogue and exploration with the patient regarding care choices (Guyatt et al., 2004). This dialogue becomes important when faced with the uncertainty of healthcare decisions because patients prefer varying levels of participation in the shared decision-making process (Brown et al., 2012; Fraenkel, 2011). Literature shows that patients who may have initially been

reluctant to play an active role in making healthcare decisions may later decide to become more actively involved, if given more information about their options (Brown et al., 2012; Chewning et al., 2012; van Tol-Geerdink et al., 2006). The Coping in Deliberation (CODE) Framework is a model specifically designed for situations in which there are ambiguous treatment recommendations (Witt, Elwyn, Wood, & Brain, 2012), as is the case for women with ADHD when they become pregnant. The application of this framework offers a comprehensive approach toward understanding how a woman copes with managing her ADHD symptoms once the management options have changed.

The CODE framework provides a model for appraisal and deliberation in the context of preference-sensitive healthcare choices (Witt et al., 2012). A preference-sensitive choice is described as one in which no clear medical guidance is available and requires exploration of patient values and preferences (Witt et al., 2014). The authors of this framework suggest that individual coping choices result from a transactional process of appraisal and deliberation (Witt et al., 2012). The framework addresses the importance of integration of the coping process with decision-making (Elwyn & Miron-Shatz, 2010; Janis & Mann, 1977; Power, Swartzman, & Robinson, 2011).

The CODE framework incorporates constructs of Conflict Theory and system variables for stress from the Transactional Model (Lazarus & Folkman, 1987; Lazarus, DeLongis, Folkman, & Gruen, 1985; Witt et al., 2012). Until recently, theories of coping and decision-making were mutually exclusive and did not acknowledge the influence of one on the other (Power et al., 2011). The foundation of the CODE framework builds on previous research and interlinks the processes of coping and deliberation while maintaining sensitivity to the individual's integrity (Balneaves & Long, 1999; Power et al., 2011; Witt et al., 2012).

The framework identifies four deliberation phases, and within each phase the patient is guided through three processes of appraisal (Appendix 1) (Witt et al., 2012). The four deliberation phases are: a) disclosure of the risk or health threat, b) discussion of choice, c) preference construction, and d) the decision (Witt et al., 2012). When the patient is faced with the health threat, contemplation occurs in the context of its identity, timeline, cause, consequences, and what is within the patient's control (Power et al., 2011). As the patient discusses options, the second phase of deliberation, there is a focus on both emotional and cognitive elements throughout the phase. Specifically, the patient actively engages in the "What if?" scenarios with each of the possible choices, and weighs the risk/benefit, while also considering the emotions experienced with each option (Elwyn & Miron-Shatz, 2010). During preference construction, the third deliberation phase, the patient may be heavily influenced by contextual factors and circumstances (Elwyn & Miron-Shatz, 2010). Of the deliberation phases, preference construction seems to be the least systematic because of the variability in how it develops (Lichtenstein & Slovic, 2006). For example, preference could change in a matter of minutes in light of new information. The actual decision occurs in the final phase of deliberation, after preference construction is complete and a preferred option has been selected by the patient (Witt et al., 2012). It is important to note that the decision does not always represent a treatment decision; the patient may decide to avoid the decision all together or transfer the decision to someone else, such as a provider or significant other (Witt et al., 2012). Within each stage of deliberation three processes of appraisal occur before the patient progresses to the next phase.

The first process begins with primary appraisal, followed by a secondary appraisal and finally, with the process of coping (Witt et al., 2012). In primary appraisal, cognitive and

emotional aspects surrounding the perceived significance of the stressor or threat to the patient are processed (Lazarus & Folkman, 1987). The patient assesses the meaning, relevance, and strength of the threat during this process (Witt et al., 2012). Questions in primary appraisal assist the patient in exploring the nature of the threat and feelings about it (Witt et al., 2012). The secondary appraisal is the evaluation of perceived control in response to the stressor or external event through utilization of resources and skills at the patient's disposal (Lazarus & Folkman, 1987). This secondary appraisal also has cognitive and emotional aspects; however, the focus is on the evaluation of the patient's coping response (Witt et al., 2012). The patient is guided to assess the coping resources that may be helpful in dealing with the threat, such as availability of social support or having a positive outlook. The final process of coping is primarily focused on the selection of a coping strategy (Witt et al., 2012). The selection of a coping strategy can be influenced by the patient's preferred coping style, or personal factors such as values, beliefs or self-efficacy (Witt et al., 2012). The framework proposes the effectiveness of the coping strategy is largely determined by whether or not the patient judges it appropriate for the circumstances (Witt et al., 2012).

Movement through each appraisal process and deliberation phase is facilitated by a series of questions that address different considerations important in the decision-making process. The questions are adapted to serve as prompts to elicit the patient's thoughts and concerns and to assist the healthcare provider's understanding of the patient's preferences (Witt et al., 2012) (Appendix 2). Though depicted as a linear process, the framework is a dynamic, iterative process that promotes re-appraisal and fluidity between the deliberation phases (Witt et al., 2012). This is intentional to allow for adaptability in the differences among individuals and to recognize the potential need for alteration of coping strategies as appraisal and deliberation

continue (Witt et al., 2012). If the desired outcome was not achieved, the patient may circle back to re-appraise the threat and subsequently make adjustments to the coping strategy (Witt et al., 2012). For example, a woman who is at high risk for developing breast cancer and initially chooses avoidance to cope, may become increasingly anxious, re-appraise her risk, and choose a different coping strategy to more effectively decrease her anxiety. The relationship between emotion and cognition in each of the processes is not necessarily linear or rigid (Witt et al., 2012). Emotions are influential in the cognitive process of the patient during primary and secondary appraisal (Lazarus & Folkman, 1987). For example, anxiety could magnify the perceived threat in primary appraisal or become a barrier in secondary appraisal by inhibiting the patient's ability to identify possible resources for coping (Witt et al., 2012).

Consolidation is the final stage in the CODE framework, and is separate from the deliberation phases. Described as a “coping mechanism designed to defend a decision from regret in the future”, the consolidation phase acknowledges the importance of consequence as a component of any decision-making framework; the outcome of the decision is something that stays with the patient (Witt et al., 2012, p. 260). In an effort to accept and support their choice, patients' experience *attractiveness restructuring* (Svenson, Ampara Ortega, Andersen, Sandberg, & Svahlin, 1994). This restructuring process during the consolidation phase assists patients to a place of acceptance with the decision-making, and allows the ability to reshape their perspective as to how they achieved the outcome; thereby, influencing future decision-making (Svenson et al., 1994).

The integration of the coping and decision-making a process encompasses a holistic approach and depicts a more accurate representation of individual experiences in in the context of real life (Balneaves & Long, 1999; Power et al., 2011; Witt et al., 2012). The CODE

framework describes the deliberation process in the context of emotional and cognitive thinking with the provision of a systematic approach and an aim to provide insight into the intangible process of patient decision-making (Witt et al., 2012; Witt et al., 2014). Therefore, through the shared decision-making process, providers are instrumental not only with engagement, but also with assessment of patient-support requirements and assistance with provision of those supports (Stiggelbout et al., 2012). This process promotes patient engagement and patient-centered care, key components for improved outcomes for healthcare decisions (Barry & Edgman-Levitan, 2012; Stewart et al., 2000).

CHAPTER 4: METHODS

Design. This project was a mixed methods design including qualitative data from semi-structured interviews and quantitative data from an online survey administered by Qualtrics. This approach was selected to provide a broader perspective (survey) that was supplemented with the richness of qualitative data (interview). Due to the complexity of the coping process women who have been diagnosed with ADHD experience, and the scarcity of information currently available to assist providers, this approach was chosen to obtain preliminary data. Institutional Review Board approval to conduct the study was obtained.

Sample. The sample consisted of two female interviewees and 33 survey participants. The inclusion criteria were the same for both groups. The inclusion criteria were: women, between the ages of 18-40 diagnosed with ADHD by a psychiatrist or Psychiatric Mental Health Nurse Practitioner (PMHNP) pre-pregnancy, and delivered a baby less than 5 years ago.

Recruitment of the interviewees occurred during a one-month period facilitated by providers at a local outpatient agency. Providers were asked to share study information and inclusion criteria with anyone who might meet inclusion criteria and be willing to participate. Interested participants were asked to call the agency to be scheduled for an interview. The agency identified one staff member to help coordinate the interviewees, as well as obtain initial verbal verification of inclusion criteria prior to being scheduled for the interview.

Recruitment of survey participants occurred through social media, professional networks and the University of North Carolina at Chapel Hill (UNC) Listserv via a recruitment flier (Appendix 3). In addition, a website was developed with information about the study and provided the survey link for those willing to participate.

Utilizing a qualitative approach, two in-depth interviews were conducted with women who met study criteria. The two interviewees opted to choose their own pseudonym to uphold confidentiality. The first woman interviewed was “Caroline” and the second interviewee was “Naomi”.

Caroline is a 29-year-old married Caucasian female with a bachelor’s degree who works in business. She is a first time mother of a four-month-old girl. Caroline was diagnosed with ADHD at the age of 13 and denies any other co-occurring psychiatric diagnoses. She began taking stimulant medication at the time of her diagnosis and discontinued her medication upon discovering she was pregnant in 2014; she resumed her medication after breastfeeding ended. Her primary care provider managed the stimulant medication (Adderall XR) for her ADHD.

Naomi is a 30-year-old African American engaged female who has completed some college credit and is currently a homemaker. She is a mother of a 17-month-old girl and was four months pregnant with her second child at the time of the interview. Naomi reports being diagnosed with ADHD at age five, with bipolar disorder as a teenager. Six months prior to her first pregnancy she reported being treated with Concerta and another medication for sleep. During her last pregnancy she reported being treated with Latuda for a short period for depression and has recently resumed Latuda during this pregnancy for difficulty sleeping. She reports that her last dose of Concerta was prior to discovering she was pregnant with her

daughter over two years ago. Naomi reports seeing a psychiatric provider for her mental health needs since she received her first psychiatric diagnosis.

Setting. The participating agency from which the interviewees were recruited was a large provider of psychiatric and mental health services across the lifespan throughout the state of North Carolina. The agency used in this project was located in the Research Triangle of North Carolina, and serves patients with severe and persistent mental illness through the provision of psychiatric assessments, individual and family therapy, and medication management.

The setting for the survey participants was primarily virtual to include the study website, professional organizations; the PI's social media account (Facebook) and the UNC listserv. Healthcare provider agencies in outpatient clinics were used to post fliers for advertisement of the website and URL for the survey.

Data Collection

Qualitative. A separate, single interview was conducted with each of the interview participants recruited by providers within the agency. Consent was obtained (Appendix 4) for the process of identifying and scheduling the interviews. Each interviewee received a \$40.00 Target gift card as an incentive to participate.

A semi-structured interview format consisting of 22 open-ended questions was developed by the investigator and was adapted from the review of literature and adapted to fit the cognitive and emotional elements of decision-making as discussed in the CODE Framework (Appendix 5). The interview format, according to the CODE Framework was customized from four core questions to elicit information relating to each interviewee's coping process. These four questions were:

- What were the antecedent circumstances in making this decision?

- What is at stake in making this treatment decision?
- What are my options in making this treatment decision?
- What are the adaptational outcomes of this decision?

Basic demographic data was collected during the interview and included:

- Employment, marital, insurance status
- Co-morbidities
- Highest level of education completed
- Age during last or current pregnancy, number of pregnancies

Quantitative. A one-time, online survey administered by Qualtrics™ was offered to obtain information about women’s perceptions of their coping with ADHD symptoms during their pregnancy (Appendix 6). The Qualtrics survey is approved for protection of sensitive information. The survey questions were developed from the review of literature and the CODE framework in a similar process as the qualitative interview questions, and then adapted for an online survey format. The survey participants entered the survey via a single URL. In an effort to increase the rigor of methodology and quality of the information retrieved from the survey, the questions were reviewed and revised through consultation with the Odum Institute for Research in Social Science. The survey was active for 30 days.

CHAPTER 5: DATA ANALYSIS

A mixed methods approach using a convergent design involved the independent collection and analysis of both qualitative and quantitative data, with the intention of connecting the two sources through an integrated analysis (Creswell, 2014). Therefore, data collection occurred during the same time and phase to collect equally weighted strands of qualitative and quantitative of data. Independent analysis occurred before the data was interfaced for a larger interpreted meaning. An effort was made to facilitate compatibility among the qualitative and quantitative data by establishing identical inclusion criteria so that each source of data would originate from the same population. In addition, parallel questions were derived from the same conceptual framework and process for use in collecting the qualitative and quantitative data. Parallel data analysis was conducted so that the collection and analysis of both data sets was carried out separately and the findings are not compared or consolidated until the interpretation stage (Ostlund, Kidd, Wengstrom, & Rowa-Dewar, 2011). The use of a concurrent approach, in which the data is merged into one data source, is not feasible for this study given the differences between the qualitative and quantitative data collection processes (Ostlund et al., 2011). Similarly, the sequential approach was also not applicable for this analysis, as the data was not dependent on one another (Ostlund et al., 2011).

Qualitative. Case study methodology, using a purposeful sampling approach was used for in-depth analysis of the cases (Creswell, 2012). Specifically, an instrumental case study design was utilized, with the focus of study being the phenomenon experienced (process of

coping), rather than the case itself (female interviewee) (Stake, 1995). Therefore, the process of coping was the unit of analysis, and was bounded by the time when pregnancy was recognized, the decision was made to continue or discontinue stimulant medication, and stimulant medication was resumed.

The analysis was performed at two levels for the multiple case study design: within each case and across the cases (Stake, 1995). Each case was analyzed individually for themes, and then collectively for commonalities and differences. This revealed the extent to which the identified internal and external factors had similar or different effect on the cases in relation to their coping experience. Finally, the meaning of the themes and patterns among the cases was interpreted.

The qualitative data analysis process was guided by six stages: 1) Code Manual, 2) Code Reliability, 3) Application of Codes, 4) Data Summary, 5) Connecting the Codes, and 6) Theme Confirmation (Appendix 7). The process began with the development of a code manual (Appendix 8). This initial stage organized the data into similar categories for interpretation (Fereday & Muir-Cochrane, 2006). Codes were derived from the four phases of deliberation and process of coping (CODE Framework). Each code was given a name or label, a definition of the theme, and description of the context.

The second stage, code reliability, was used to determine the applicability of the codes to the raw data (Fereday & Muir-Cochrane, 2006). A second reviewer evaluated possible discrepancies with code assignments, and any discrepancies were resolved through review of the raw data. Application of codes was the third stage and initiated an iterative process through summarization of the data and loosely identifying themes while reading and listening to the data

(Fereday & Muir-Cochrane, 2006). The same iterative process was conducted for both interviews.

The fourth stage, data summary identified key phrases of text with the codes to facilitate meaning and the emergence of patterns (Fereday & Muir-Cochrane, 2006). Corresponding phrases or text from each interview were extrapolated and organized by code was conducted in this fourth stage (Appendix 9 and 10). Connection of the codes, the fifth stage, is where key phrases according to each interview were compared for differences and areas of consensus was completed (Fereday & Muir-Cochrane, 2006). This stage was more interpretative, as a central point of this stage results in the recognition of themes that occurred throughout the process (Appendix 11) (Fereday & Muir-Cochrane, 2006).

The quotes with assigned codes were combined as one unifying theme in the final and sixth stage, theme confirmation. It is at this stage where all the quotes with their assigned code are combined and one unifying theme emerges. The result of this process resulted from further data clustering, yielding one source, according to the theme identified and reviewed (Fereday & Muir-Cochrane, 2006). This final stage serves to solidify how the themes generated uncover the meaning of coping to women with ADHD during pregnancy.

The sixth and final stage consisted of further data clustering which resulted in a unifying theme. These themes emerged from the assigned quotes for each code. It is the process in this final stage that further defines the experiences of coping for these women.

Quantitative. The Qualtrics-administered survey included one consent question, four mandatory questions to screen for inclusion criteria, seven demographic questions, and twenty-four questions about the woman's experience of coping with ADHD symptoms during

pregnancy. Thirty-three respondents consented to participate in the survey; however only 30 respondents met inclusion criteria. Therefore, these three respondents were not included in the analysis. The data generated from 30 respondents was analyzed using ©R statistical software. The primary analyses were descriptive due to sample size, and frequency distributions were computed for all survey questions. Analyses were conducted to compare survey responses for primiparous (first pregnancy) and multiparous (more than one pregnancy) mothers using a contingency table. Our sample size was 30 participants and consequently underpowered to use χ^2 tests. Participants were not required to answer any questions outside of the screening questions; therefore the number of respondents will only be reported when the number (n) is less than 30.

CHAPTER 6: RESULTS

Qualitative: Through the six stages of data analysis the transcripts of Naomi and Caroline were reviewed three full times resulting in the identification of three main themes: prenatal patient-centered care (PCC), primary support, and maternal role or “mothering”. The formulation of these three themes emerged following the fourth and fifth stage of data analysis (Appendix J) and was validated during the final stage: Theme Confirmation (Appendix K). These three themes further define important elements of a shared experience for these two women who coped with ADHD during their pregnancy. Each of these themes is discussed in detail.

Lack of Prenatal Patient-centered Care. Patient-centered care was defined by the Institute of Medicine’s (IOM) in their report *Crossing the Quality Chasm*, as “care that is respectful of and responsive to individual patient preferences, needs, and values” (Institute of Medicine, 2001, p. 6). Both women expressed healthcare experiences that lacked patient-centered care during their prenatal period. Both women were unable to recall any discussion at any time before or during their pregnancy with their psychiatric provider or their OB-GYN provider about how their ADHD symptoms would be managed during pregnancy and breastfeeding.

Caroline “...but it never got mentioned or brought up to me ...and I guess I didn’t really probe them for support in that area ‘cause I kind of felt like their specialty was in taking care of myself and the baby during pregnancy...I just knew that wasn’t

really where I was going to get support ...”. While Naomi shares, “No, they made me go off of it (the medication)...the doctor said you can’t be on ADD medicine while you are pregnant”.

Both women shared an experience of interrupted continuity of obstetric care; Naomi stated

“... I don’t like the fact how...[they]... couldn’t deal with my high risk so they had to send me to another prenatal care place unlike the place I am at now, even though I am high risk they can still treat me (current site) even though I am high risk and I like that”.

Caroline stated, “So it’s weird, it’s like your primary care physician prescribes you medication and then once I became pregnant I just really stopped seeing them all together. And so those were always the conversations I would have with my primary care provider. My OB/GYN never talked to me about Adderall or ADD or anything like that”. For example, in response to being asked what would have been helpful, Caroline stated,

“[To] know what other options there are out there, that are safe for you and safe for child - would that be medication or whether that would be just recommended that during this time ‘Why don’t you meet with someone bi-weekly or weekly’”. Caroline reiterates this when asked specifically about conversations about alternative options, such as psychotherapy from her provider, “...I think that would have probably been a benefit being pregnant and even after pregnancy with breast-feeding and everything like that.”

Naomi shared a similar response when asked if there was anything her provider could have done to be more helpful, “[To know] what they could have put me on, even if it wasn’t that strong, but at least something to help control my ADHD and my impulses

while I am pregnant.” When asked if it would have been helpful for someone to have specifically discussed with her some options, she responded “Exactly”.

The reported experiences of these two women suggest the need for improvement with respect to the healthcare they received; specifically, the need for continuity of care and patient/provider conversations about options. These two needs are currently identified by our healthcare system as important to the quality of care patients receive (Barry & Edgman-Levitan, 2012).

Primary Support. Although, the term “primary support” may be used to identify multiple sources of closely connected relationships upon which one might rely, for these two women the term *primary support* consisted of family and family “figures.” The importance of this type of support and its impact on their coping was mentioned repeatedly throughout both interviews. Caroline identified her husband, mother, and mother-in-law as her primary support network. Naomi identified receiving primary support from the close relationships of her fiancé, godmother and mother.

Naomi and Caroline shared the experience of feeling supported by the encouragement of a “motherly” figure. Caroline talked about how her mother was affirming of the challenges she faced during her pregnancy, stating “I would tell her ... ‘I totally forgot about this’, and she would either tell me about a time that happened to her, or she would give me something relatable. I remember she would cheerlead me, “You are going to have this baby and you are going to be so happy when you have her”... She would always cheer me on, “Don’t worry you have one more month.” In reference to other types of support Caroline received from her mother, she stated “But my mom ...and family where all so supportive and they would constantly come in ...and cook dinner, clean the house, unpack boxes and things like that

(moving into a new home). That was really very comforting. You have to have a support system I feel like, at least for me personally. That is what helped me stay sane.”

Naomi’s mother lives far away and she talked about the importance of her godmother as a major support person in her life. When asked about who she felt was the main person she looked to for support, she responded, “My Godmother was; she still is to this day... She has been very supportive. She supports to the point where she considers me a daughter to her The good thing about her is she went with me to find out what I was having (gender of baby) and she is going to go with me when I find out what I am having with this one, so it has been a big help.” When Naomi was asked to talk about who helped her make decisions about managing her ADHD, she stated, “I am going to say mostly me, and my godmother, and my mother.”

Both women were in committed relationships and discussed the important role their significant other played during their pregnancies. Caroline described this relationship as an important resource. For example, she shared the importance of her husband’s support when she first brought her daughter home. “My family was here and my husband and everyone was very supportive, I mean I saw them turn around in ways I never imagined possible, and I was super grateful for that because that is what I think really kind of helped me get through what... was definitely a scary time for me.” She shared how her husband was supportive in ways that were at times difficult for her to process and articulate in her comment, “There is something to be said that as women we go through a lot. There is a lot that we don’t even know how to verbalize... and my husband, I know ... in his own way he has done a lot too...”.

Naomi identified her fiancé as a prominent source of support of whom she can rely on. Her comments revealed that she felt very supported by him through his encouragement for her to exercise and eat healthily during her pregnancy: “He is helping me try and get in shape, which is

hard while you are pregnant, but I can understand he still wants me to be pregnant and loose the weight, which I can understand. When it comes to buying food he is very supportive with that too. He is very helpful with a lot of things especially when it comes to... [their child together].” Naomi openly discussed their communication challenges stated they argue, and at times lose their tempers. Naomi seemed encouraged in her fiancé’s desire to avoid this conflict, stating “He is being pretty good... telling me [that’s] why he doesn’t want to argue and don’t like fighting because this is what happens [the escalation of their arguing]. So that is why I try not to fight with him as much as possible.” Naomi expressed ambivalence about her decision to try and avoid this conflict. An example of this is when she stated, “...but sometimes it’s hard for me to want to tell him certain things...I feel like I can only tell him ... when he is about ready to drink (alcohol), which I hate to say that, but that is when I feel he is going to listen to me.”

Although Caroline’s and Naomi’s perceptions of their needs from their significant others are different, they identified their primary support comes from the same roles: a significant other (husband, fiancé) and a “motherly” figure (mother, godmother). Both women share specific expectations of their significant others were separate and different from those significant matriarchal figures identified as important during their pregnancy period. Although, the expectations for their significant others were different, Caroline was looking for help with household duties and Naomi talked about communication needs. The expectations they perceived for their respective “motherly” figures were similar, looking for encouragement and wisdom as they manage their households.

Maternal Role. This theme is defined as “...the role, processes, and set of behaviors that evolve over time in response to maternal experiences and are associated with nurturing and caretaking behaviors in the context of the mother-infant/child relationship” (Gardner, 2014, p.

814). This seemed to be a primary source of motivation for both women as they made decisions about their health and healthcare.

In response to what helped her decide to discontinue her medication Caroline stated, “The healthy pregnancy and having a healthy child was number one to me. So whatever I had to do, I would have done it and I tried to do it.” Naomi shared how spirituality is important to her personally and also important in the raising of her children “in the church” as she was. When asked what has been the most helpful for her during her pregnancy she stated, “Reaching out to God for help. That is what I can say really helped me out a whole lot. Like I said ...I like going to church because I feel like I can talk about what is going on.” Naomi also reiterates this theme when sharing some of the behaviors she would like to change, for example, “If I am not doing anything, I might take her to the park like I told her (infant) today, if it is still nice out when we get home, we will go to the store and then we will go to the park because I want her to start going to the park, I want her to be active...”

This maternal role seems intuitive and a primary motivating factors for many of the priorities that Caroline and Naomi articulated. In addition, this perceived maternal role influenced behavior that impacted health decisions, whether it was about treatment options or daily living in these two interviewees.

Quantitative: Thirty-three women consented to participate in the online survey. Three participants agreed to participate, but did not progress past the inclusion criteria required to proceed through the survey. Therefore, their results were excluded from further analysis. Thirty participants met inclusion criteria for participation in the study and their results are discussed below. Questions that were further analyzed by primiparous or multiparous status of the

participants will be reported separately.

Demographics

Although 30 women completed the survey, only 29 women completed all the optional demographic questions. Sixteen women reported their last pregnancy as their first (Primiparous; n=16). Therefore we concluded that those who denied that this was their first pregnancy were multiparous (n=14), since all of these women reported a pregnancy with delivery date in the past five years during the screening questions.

Table 1: Demographics

Demographics			
<u>Question</u>	<u>Answer</u>	<u>Responses</u>	<u>Percentage</u>
Ethnicity	Hispanic or Latino	1	3%
	White	28	97%
Age	Median	31 years old	N/A
	Range	24-40 years old	N/A
Marital Status: Upon Discovering Pregnant	Married	22	76%
	Living with Partner (not married)	5	17%
	Single (not married or living with partner)	2	7%
Marital Status: At Delivery	Married	24	83%
	Living with Partner (not married)	5	17%
	Single (not married or living with partner)	0	0%
Education Completed	High School	1	3%
	Some college	4	14%
	Vocational Training	1	3%
	Associates Degree	2	7%
	Bachelor's Degree	14	48%
	Master's Degree	6	21%
	Doctorate Degree	1	3%
Employment Status During Pregnancy	Employed	19	66%
	Unemployed	2	7%
	Homemaker	5	17%
	Student	4	14%
	Unable to work	2	7%
Insurance	Private Insurance	24	83%

	Medicare/Medicaid	3	10%
	Tricare	1	3%
	Other	1	3%
Was this your first pregnancy?	Yes	16	53%
	No	14	47%

Twenty- eight (97%) of the respondents identified their ethnicity as white and 3% (n=1) as Hispanic or Latino. No respondents reported their ethnicity as African American, Native or American Indian, Asian or Pacific Islander or other. When asked about education, no respondents reported completing anything less than a high school degree or professional degree. Respondents were asked about employment during their last pregnancy and given additional options not reported in the table above. No respondents reported being military or retired. Also, the answer choice “Employed for wages” and “Self Employed” were combined and reported as “Employed”, also “Out of work and looking for work” and “Out of work and not currently looking for work” were combined and reported as “Unemployed”. When asked about insurance, no respondents reported having Veteran’s Affairs insurance, Indian Health Service or No Insurance. None of the respondents reported a personality disorder and 31% (n= 9) reported never being diagnosed with any of the disorders listed.

Questions About Coping

Table 2: Diagnosis, Treatment and Co-Morbidities

Diagnosis, Treatment and Co-Morbidities				
Question	Answer	Response		%
Age at time of ADHD Diagnosis	7-13yr	6		21%
	14-18yr	7		25%
	19 or older	15		54%
Co-Morbidities P=Primiparous M=Multiparous	Answered “Yes”	P (N=16)	M (N=14)	%
	Depression	11	6	59%
	Anxiety	7	7	48%
	Bipolar	0	1	3%

	Eating Disorder	1	2	10%
	Psychotic Disorder	0	1	3%
	None	4	5	31%
Did you take any prescription medications for ADHD at any time during your last pregnancy?	Yes	6		20%
	No	24		80%
The six respondents who answered “Yes” were asked the question below				
If you can remember the name(s) please list in the space provided.	1. Adderall ER 2. Vyvanse 3. Adderall 4. Zoloft			

When participants were asked if they had taken any prescribed medication during pregnancy, six of the women responded, “Yes”. However, when these women were asked to list the medications, two of them reported discontinuing any medication once they discovered they were pregnant. Of the remaining four responses, one woman reported taking Adderall, one reported Adderall Extended Release, one reported taking Vyvanse and one reported taking Zoloft.

Table 3: Managing ADHD

Managing ADHD			
Question	Answer	Response	%
When you first learned you were pregnant, how worried were you about managing your ADHD symptoms?	Not at all	10	33%
	Somewhat worried	7	23%
	Very worried	13	43%
Which ADHD symptoms did you have the most difficulty managing during your last pregnancy?	Inattention	21	72%
	Hyperactivity	1	3%
	Impulsivity	6	21%
	None	1	3%
Who was the	Mother, Sister,	3	10%

most influential in your decision of how to manage your ADHD symptoms during your pregnancy?	or Grandmother		
	Significant Other or Spouse	13	45%
	Other Family Member	1	3%
	Friend(s)	1	3%
	Spiritual or Community Group	1	3%
	Healthcare Provider	3	10%
	Other	1	3%
	None	6	21%
Were you satisfied with how your ADHD symptoms were managed?	Yes	16	57%
	No	12	43%
Looking back on your last pregnancy would you do anything differently?	Yes	13	45%
	No	16	55%

Most women reported being worried about ADHD symptoms and reported some type of difficulty managing their ADHD symptoms. The biggest influence for women was their spouse or significant other, but the second most common choice was none, which could suggest that this decision is a very personal. Of the 28 respondents, most women seemed to be satisfied with how their symptoms were managed.

Table 4: Conversations with healthcare provider and impact of symptoms

Conversations and Impact			
Question	Answer	Response	%
Before you became pregnant, did	Yes	6	21%

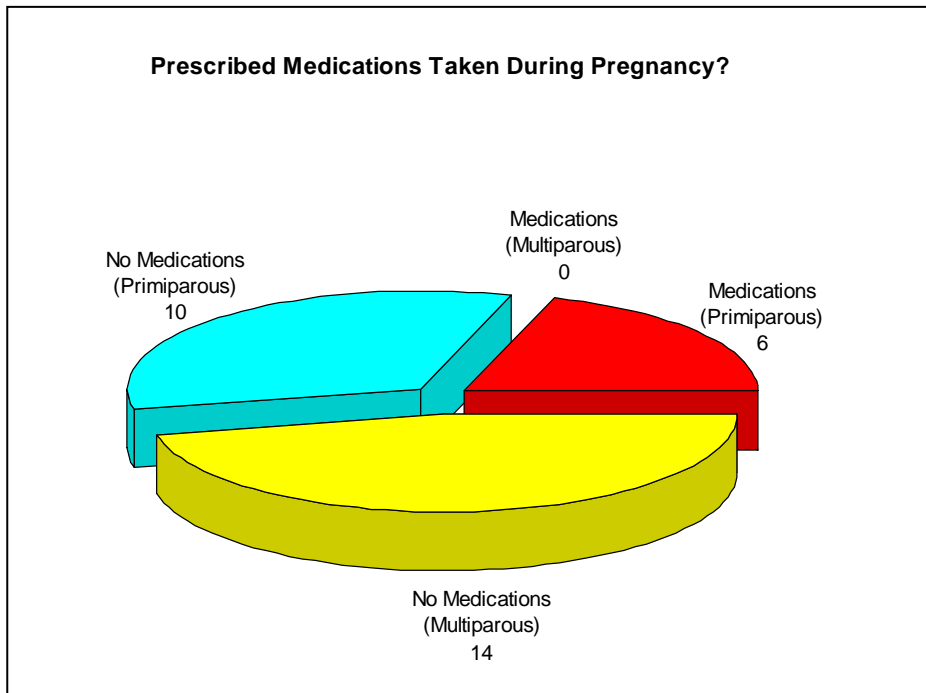
you ever discuss with a healthcare provider how to manage your ADHD?	No	23	79%
Did you ever start a conversation with your healthcare provider about how to manage your ADHD symptoms?	Yes	10	33%
	No	20	67%
Which part(s) of your life were affected by your ADHD symptoms during your last pregnancy, if any? (Check all that apply)	Work	19	66%
	Home	24	83%
	Neither	3	10%
Which relationships were affected by your ADHD symptoms, if any? (Check all that apply)	Romantic Relationship(s)	19	66%
	Close Friend(s)	11	38%
	Family	17	59%
	Neither	7	24%

The majority of women did not recall having a conversation about how to manage their ADHD during pregnancy prior to becoming pregnant, and were not likely to initiate a conversation with their healthcare provider about management options.

Primiparous and Multiparous Women

Ten questions from the survey related to coping were further analyzed based on whether the respondent was primiparous (first time mother; n=16) or multiparous (having more than one child, n=14).

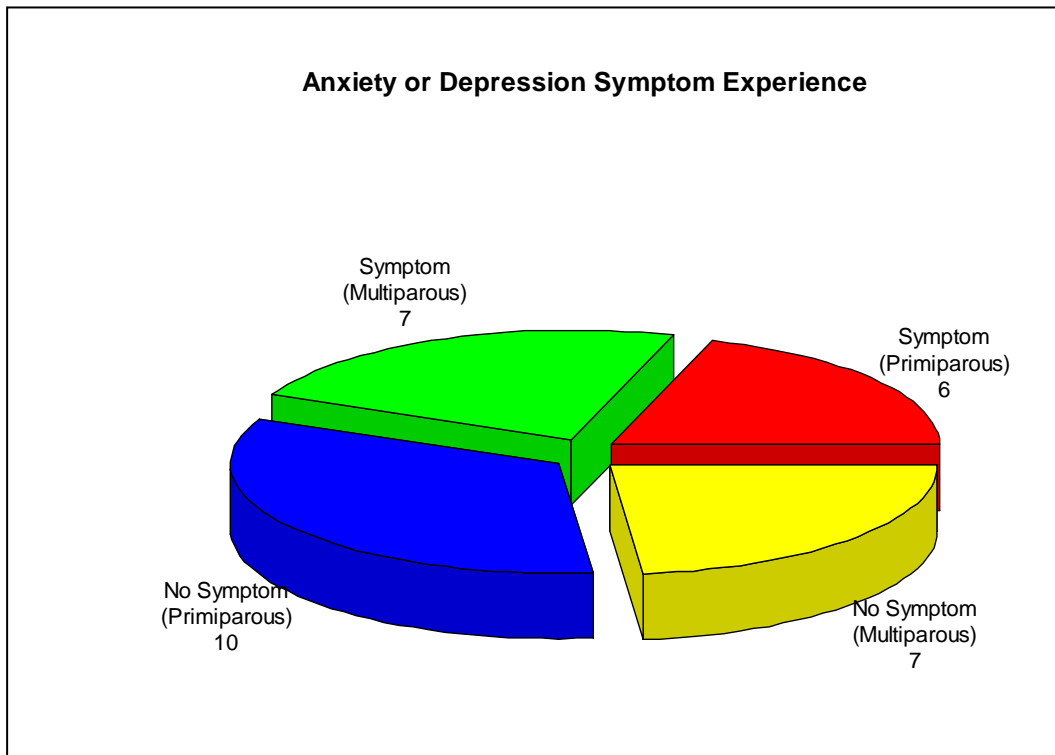
Figure 1: Prescribed Medications Taken During Pregnancy



Women who responded, “Yes” were asked a follow-up question about the particular medications they took during their pregnancy. The responses listed were: Adderall Extended Release, Vyvanse, Adderall and Zoloft. Of the six women who responded “Yes”, two of the women indicated in the follow-up question they stopped their medication once they discovered they were pregnant; therefore their responses were not reported.

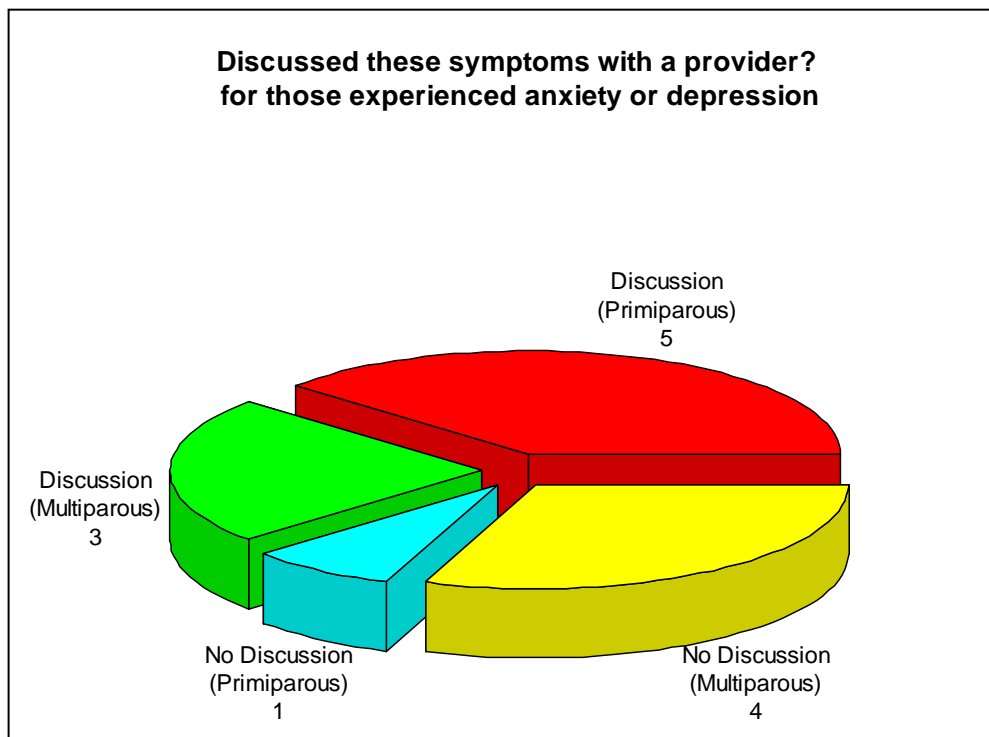
Overall, 43% (n=13) reported, “Yes” and 57% (n=17) reported “No” to experiencing anxiety or depression symptoms. Of those who expressed experiencing anxiety or depressive symptoms 50% (n=7) were multiparous and 37% or N=6 were primiparous. Women who responded, “Yes” were then asked, “Did you discuss these symptoms with a health provider?”

Figure 2 : Anxiety or Depression Symptoms Experienced



Of those who reported, “Yes” (n=13) to experiencing anxiety or depressive symptoms 62% (n=8) of women acknowledged that they shared with their provider about these symptoms. Further analysis revealed, 62% (n=5) were primiparous and 38% (n=3) were multiparous. Primiparous mothers were more likely to discuss their symptoms with their provider.

Figure 3: Discussed these symptoms with a provider



When asked if they were ever diagnosed with postpartum depression or baby blues, 20% (n=6) reported “Yes” and 80% (n=24) reported “No”. Of those diagnosed with Postpartum Depression 25% (n=4) were primiparous and 14% (n=2) were multiparous.

Overall, 20% (n=6) reported gaining 0-25 pounds, 57% (n=17) reported gaining 26-50 pounds, and 23% (n=7) reported gaining more than 50 pounds. The majority of primiparous and multiparous mothers gained 26-50 pounds; however, more primiparous mothers gained 51+ pounds when compared to multiparous mothers.

In the next question women were asked whether or not they experienced financial, emotional, spiritual and physical support needs, and if so, the degree to which these needs were met.

Table 5: Support Needs

Need	Primiparous Yes	Multiparous Yes	Primiparous No	Multiparous No
Emotional	100% (n=16)	71% (n=10)	0% (n=0)	29% (n=4)
Physical	44% (n=7)	21% (n=3)	56% (n=9)	79% (n=11)
Financial	50% (n=8)	50% (n=8)	29% (n=4)	71% (n=10)
Spiritual	60% (n=9)	43% (n=6)	40% (n=6)	57% (n=8)

* Spiritual support only had 29 responses where the other forms of support had 30.

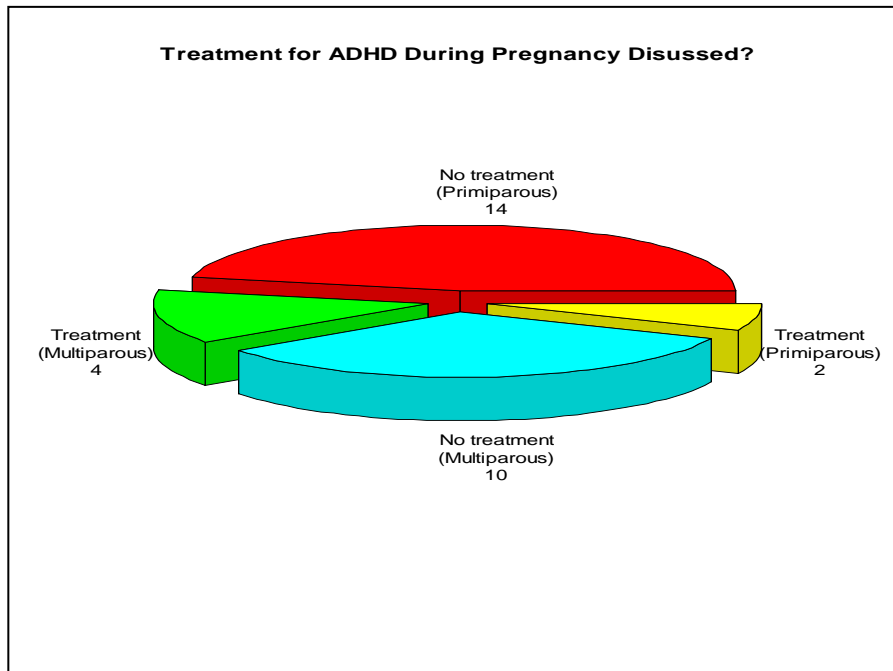
Primiparous mothers reported more having more needs than multiparous mothers, given 50% or more of primiparous mothers reported having emotional, physical and spiritual needs. The biggest need for primiparous mothers was emotional support with 100% of mothers expressing this need. Emotional support was also the biggest need for multiparous mothers. 71% (n=10) reported this as a need. Primiparous women reported spiritual support as their second highest reported need at 60% (n=9), whereas multiparous women reported financial support as their second highest at 50% (n=6).

Although most multiparous and primiparous women reported having emotional support needs, most often this need was mostly or completely met. Primiparous women reported their emotional need was met, “only a little” (6% [n=1]) of the time, “mostly” met (81% [n=13]) of the time and “completely” met (13% [n=2]) of the time. Multiparous women reported their emotional need was met, “only a little” (30% [n=3]) of the time, “mostly” met (40% [n=4]) of the time and “completely” met (30% [n=3]) of the time.

Interestingly, women who have experienced more than one pregnancy reported having had provider-led conversations about treatment options twice as many times as first time

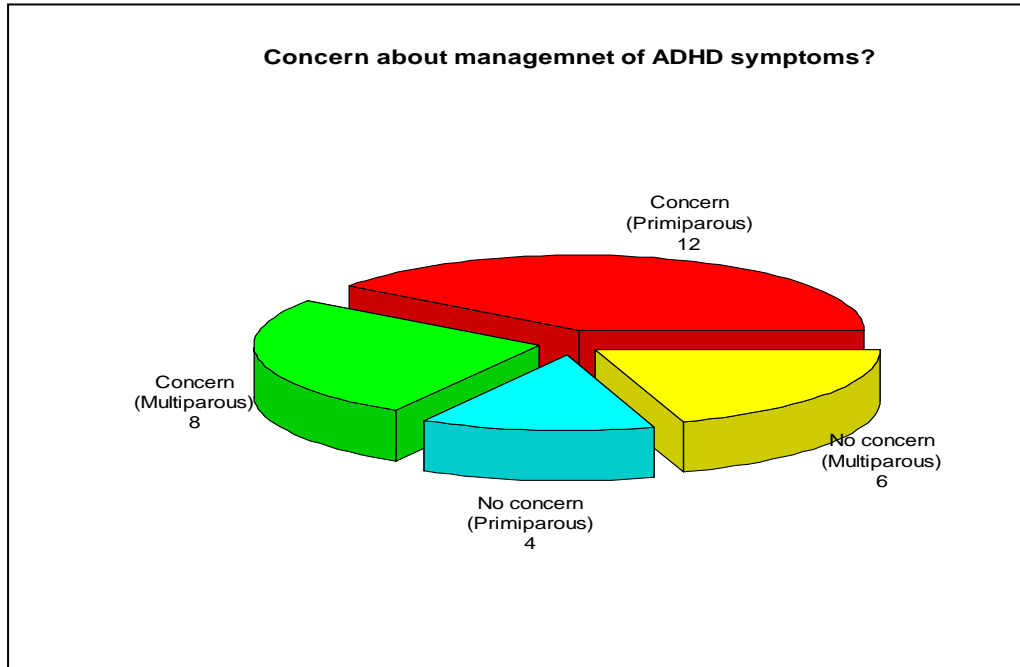
mothers. However, most of the respondents, despite their pregnancy experience, primiparous 88% (n=14) and multiparous 71% (n=10), reported never having a discussion with their provider about treatment options.

Figure 4: Treatment for ADHD during Pregnancy Discussed



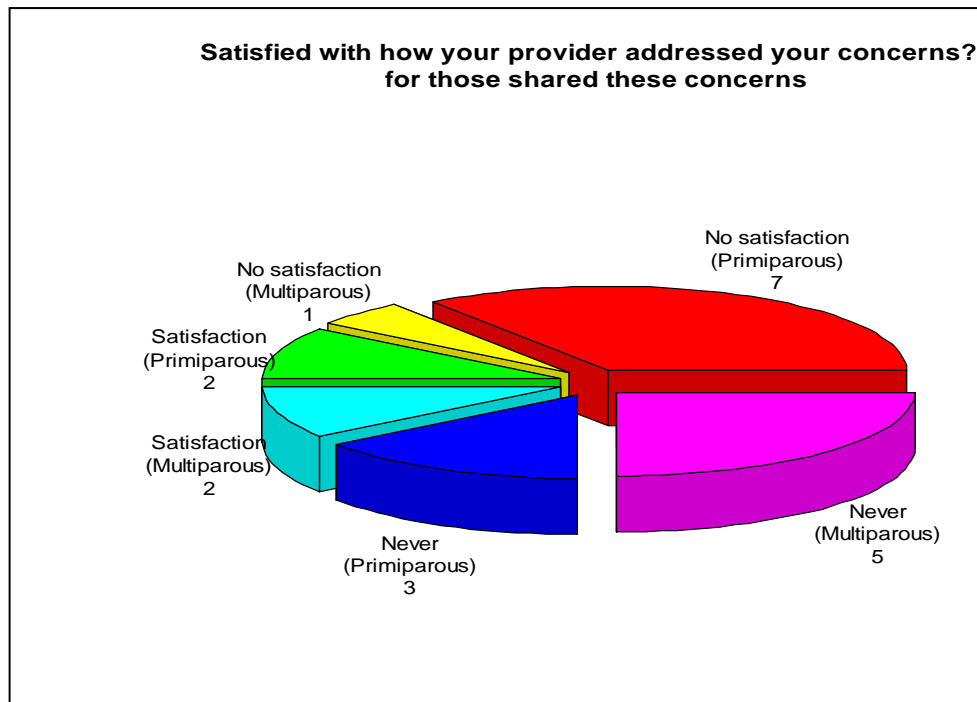
Overall women had concerns about how their ADHD symptoms would be managed with 67% (n=20) reporting “Yes” and 33% (n=10) reporting “No”. A higher proportion of first time mothers, 75% (n=12) reported concerns when compared to 57% (n=8) of experienced mothers.

Figure 5: Concern about management of ADHD symptoms



Overall, 60% (n=12) of those women who reported having concerns shared them with their provider. Of those who expressed concern, primiparous n=9 and multiparous n=3, first time mothers were the most unsatisfied (57% or n=7) with how their provider addressed their concerns in comparison of those experienced mothers who reported being unsatisfied at 12% (n=1). Experienced mothers were twice as likely not to share their concerns, 63% (n=5), when compared to first time mothers, 25% (n=3).

Figure 6: Satisfied with how your provider addressed your concerns



The last three questions from the survey were free text and allowed for individual responses.

1. It would be helpful to know what would have been helpful and/or what you weren't satisfied with.
2. Looking back on your last pregnancy would you do anything differently?
3. Please share anything else you think is important about how you managed your ADHD symptoms during pregnancy?

Eleven of the 29 participants responded to the free text questions. In the first question, seven of the responses weren't satisfied with the information they received or would have like more information about the management options that were discussed with them. Two

respondents felt that a provider more knowledgeable about ADHD in women would have been helpful. One respondent felt like more family support would have been helpful, and one respondent would have liked more medication education. In the second question, five women reported seeking out psychotherapy or counseling services. Three women would have sought out more emotional support and two women would have sought nutritional counseling. One respondent would have explored alternative treatment options and one respondent would have continued her ADHD medications. In the third question there were fourteen responses, seven of the respondents reported having executive functioning skills as important to them and two respondents reported having a supportive employer or significant other. Other resources reported among the other four respondents included, coffee, their maternal role, stress reduction activities and medication as being helpful to them during their pregnancy.

This survey data provides a variety of information from 30 women about their ADHD diagnosis, management options, and coping experience. The responses from women who were first time mothers and those who experienced pregnancy before provided a comparison of experience.

CHAPTER 7: DISCUSSION

The quantitative data, supplemented by the rich detail of the two interviews, provides preliminary information about the coping experiences for the women in this study. These different data sources strengthen the discussion of the experience of women coping with ADHD during pregnancy. The information gained from the study is interpreted within the context of the study aims and the CODE framework.

The interviewees presented with apparent differences and similarities. The similarities included: ADHD diagnosis in childhood or adolescence, long history of managing their ADHD at transitional points in their lives, use of stimulant medication, discontinuation of medication upon discovery of pregnancy, close relationship with mother or mother-figure, and utilization of this support differently than the support from significant other. The differences included: socioeconomic status, co-morbidity of mental illness, and the experience of a second pregnancy.

The survey participants shared feelings of worry about managing symptoms early in their pregnancy, identified emotional support needs, lack of conversations about ADHD symptom management with their provider, the impact of their symptoms on their home life, and their struggle with managing symptoms of inattention. Analysis of the demographics revealed that the majority of participants were married, white, with private insurance and educated with at least a 4-year degree; these demographics are usually associated with a population that has more resources.

Identified Multi-contextual Factors. The multi-contextual factors that influenced the process of coping included socioeconomic security, relationship stability, co-morbidities, and the quality and variety of social support. Contextual factors were identified as an absence of something viewed as necessary, or the presence of something very helpful. For example, the lack of a car was a significant stressor that required additional planning and organization, and placed further demands on the relationship. The requirement of the work environment and ability to meet those demands without medication influenced one woman's decision-making about the timing of her pregnancy, viewing less functionality as a potential threat to her job.

The information from both quantitative and qualitative sources support the importance of multi-contextual factors as facilitators for or barriers to the coping process. This seems particularly relevant during the preference construction phase where the women are interpreting their choices and weighing the risk of each one amongst multi-contextual factors and circumstances. Recognition of the positive and negative contributions of contextual factors offers opportunities for health care providers to assist women with decision-making about health care choices.

Perceptions of Coping. Both interviewees and survey respondents identified challenges to coping they faced during pregnancy. Common challenges for these women were staying organized, time and stress management, overcoming self-doubt and negative thoughts. Despite these challenges, the majority of women identified satisfaction with their ability to manage ADHD symptoms during this time. Interestingly, the way in which women assessed their ability to cope was not through their strengths, but in what they identified as a weakness. One interviewee revealed she viewed her inability to manage her symptoms of impulsivity and lack of motivation as a weakness. She identified needing medication to cope with this. The other

interviewee identified how she struggled with her performance at work. This was not typical in her experience and it had a negative impact on her self-esteem. However, upon reflection, she views her ability to persevere through the challenging time as an accomplishment. The women's perceptions of their coping, and the barriers to and facilitators for their coping, yields important information to assist with decision-making should they have subsequent pregnancies.

Emotional and cognitive processes in decision making. The emotional and cognitive processes necessary for healthcare decision-making are important as women assess their health risks and evaluate their degree of control over the situation. A major factor in this process is the woman's knowledge of health care choices. Both interview participants stated they did not have any prior knowledge of management options for ADHD outside of medication. Interestingly, when women reported concerns about management, it was first time mothers who were more likely to express these concerns with their healthcare providers. The data suggests neither interviewees nor survey participants had any discussion about alternative treatment options with their healthcare provider. The interviewees seemed to have an "unquestioned" acceptance when they heard recommendations to discontinue their medication. The survey participants suggested a similar attitude in the free-text comments, asking for more support and additional resources, such as psychotherapy. Additionally, the interviewees and majority of women surveyed reported not having any conversations pre-pregnancy with their healthcare providers about recommendations to discontinue medication. The data suggests the choices for how to manage ADHD symptoms did not occur through a patient-centered decision-making process and yet, a majority of women reported feeling satisfied with how their ADHD was managed.

From the experiences reported by these women, the important role of the healthcare provider is emphasized as the central access point for information about management and care of

ADHD during pregnancy. This appears to be a significant opportunity for psychiatric and obstetric providers to bridge this gap in knowledge. More specifically, psychiatric healthcare providers could ensure pre-conception conversations are occurring with women who have ADHD about management of their symptoms when they become pregnant and obstetric healthcare providers could “check in” with women about how they are coping with their ADHD symptoms and provide additional support or treatment as needed.

Identification of sources of social and emotional support during pregnancy.

Influential sources of support, both socially and emotionally, were identified through primary support relationships. Both quantitative and qualitative data acknowledged immediate family members and significant other or spouse, as key individuals on whom they relied for support. In particular, the interviewees shared many experiences in which their primary supports were instrumental with assisting them through successful negotiation of challenging times. This was supported in the data from survey participants.

Provider specific influences. The healthcare provider was considered the access point of information for management options for symptoms of ADHD. This data suggests there are additional areas in which provider knowledge can be helpful patient-centered decision-making. These areas include provider awareness of the role of primary support systems and recognition of the influence of contextual factors on the process of coping. Anticipatory guidance can be strengthened with a broad understanding of factors that influence coping as women explore this health threat and consider their choices.

Application of Code framework. The initial phase of the health threat/contemplation of risk indicated that overall, women voiced concern about ADHD but not to their healthcare provider. However, when they had concerns about anxiety and depression they did discuss that

with their healthcare provider. The survey did not ask specifically about health threat so the survey participants response are not known. However, further exploration during one interview revealed she did perceive as a health threat that might impact her ability to maintain a high level performance at work. In phase two, the discussion of choice, revealed the women reported discussion about choices for healthcare decision making with their healthcare provider. The data supports the desire for choices and specific suggestions, which are supported by the evidence within the free text data and in both interviews. Moving forward, during a subsequent pregnancy several women indicated they would ask for different management options. The quantitative data reveals most women were concerned about managing ADHD symptoms, but when asked if satisfied about how their healthcare provider managed concern, 67% reportedly had concerns. Of those, 80% indicated they never got their concern addressed-whether or not the provider failed to address that satisfactorily or they never raised their concern specifically. For the preference construction phase, given there was no discussion of choice with providers, there seems like a lack of awareness of choice among the women. The influencing contextual factors identified earlier suggest ranges of choices are needed when managing ADHD symptoms while pregnant. Survey participants indicated the biggest influence in their decision-making was their spouse or significant other the second most frequent response was no one was used to assist in decision making, indicating they made healthcare choices alone. Although survey participants were not specifically asked about resources they were asked about their physical, emotional and social needs the women in the survey reported these needs were mostly met, which may indicate they had additional resources available to them; thereby, influencing their decision making choices. There is insufficient data to further explore the process of decision-making, the key activity and preference construction, as the range of choices that might prompt decision-making

remained unknown to these women. As the women settled on a decision, the majority of women discontinued their stimulant medication once they became aware of their pregnancy. There is no data to indicate how they came to that decision. Of all the study participants, only 3 (N=30) women indicated they continued stimulant medication during pregnancy. The majority of participants indicated they would engage in additional decision making with subsequent pregnancies. When asked specifically about future decision-making, women indicated they would make other decisions, such as initiating discussions with healthcare provider or seeking psychotherapy. The final phase, consolidation, requires the women to reflect on the consequences of their decision-making as it relates to their perceptions of a health threat. Overall, more women reported satisfaction with their decision making as it related to their coping. Despite expressing a desire for different options, 57% were satisfied with how they managed their ADHD symptoms and 45% reported they would have done something differently. The code framework deconstructed the coping process in a manner useful for a greater understanding of the experiences of these women who were managing ADHD symptoms while pregnant.

Limitations

The study has several limitations. The sample is small and self-selected. The inclusion criteria for the survey participants was not able to be validated. This small sample does not allow our findings to be generalizable to any population. Also due to the homogenous sample the results cannot be generalizable even if statistical significance was achieved.

Recommendations for Further Study

The information gained from this study may be used in the development of a group therapy curriculum focused on the themes identified in the data and evidenced-based literature.

The curriculum for this treatment group would be modeled after the CODE framework and include the four phases of deliberation and consolidation. Women would be allowed to enter the group at any phase as this framework allows for a transcendent process, thus women would be able to learn from each other's experiences. The group would include psycho-education about ADHD, symptoms, medication, and alternative management strategies during pregnancy. It would also include process discussion related to the women's experiences of coping with ADHD symptoms during pregnancy. It is anticipated the outcomes of this intervention might include: an increased sense of empowerment related to decision making about healthcare choices, increased knowledge of management options for ADHD, and an experience of social support.

CHAPTER 8: CONCLUSION




The literature supports negative outcomes associated with untreated ADHD symptoms in adults (Fredriksen et al., 2014). Women with ADHD are more vulnerable to the development of anxiety and depression than women without an ADHD diagnosis (Quinn, 2008). Furthermore, the literature has linked perinatal depression with negative outcomes in the unborn child (Grigoriadis et al., 2013). Although there is no evidence to support a direct link between unmanaged ADHD in women who become pregnant, and negative outcomes; there is evidence to support the value of patient-centered care and the importance of shared decision-making to better understand this population. Given the increase in prescription rates for stimulants used to treat women with ADHD of childbearing age, more women will be faced with the decision to discontinue stimulant medication and determine new strategies for management of their ADHD when they become pregnant (Armstrong, 2014). Therefore, it is imperative that clinicians engage effectively in patient-centered care and assist with healthcare decision-making in situations in which a health threat exists.

APPENDIX 1: CODE Framework

Adaptation of CODE				
	Health Threat	Choice	Options	Preference Construction
Cognitive	What does this mean?	What does choice mean?	What are my options, what do they involve?	Is this the right time?
Primary Appraisal	What are the causes?	How long do I have to decide?	What are the risks and benefits?	Is this option congruent with my families/partners/doctors, beliefs, goals and values?
	How long will this last?	Who can decide?	What would happen if I wait?	Do I feel ready?
Emotional	How relevant / threatening is this?	Why is there a choice?	How would this affect my life?	How likely is it that I will experience regret?
	How do I feel about this?	Do I have experiences that could help me imagine what it would be like/feel like?	What did others decide?	
ADAPTATION				
	↓	↓	↓	↓
Cognitive	1. What was it like when my symptoms were un-managed?	1. What does choice mean under my circumstances?	1. Did you consider the risk/benefit of proceeding with symptom awareness or active treatment?	1. What was the most significant factor in influencing your decision to proceed with (active treatment or symptom awareness) during your (first, second, third) trimester?
Primary Appraisal	2. What's the risk to my unborn child if my symptoms are un-managed?	2. Who can make this choice?	2. Did you feel adequately informed about each options time and financial involvement? Was their any additional information that you didn't receive but felt would have been important?	2. Was your management option congruent with that of your providers/therapist/family's beliefs, goals and values?
Emotional	3. How do I feel about my unmanaged symptoms?	3. How do I feel about choosing?	3. During the time you considered your management options, to your knowledge were their any potential complications associated with unmanaged symptoms of ADHD during pregnancy?	3. On a scale of 1-10, with 10 being Very Influential. Was the impact of your management decision on your unborn child influential as you made your decision?
			4. Did you have any past experiences that helped you conceptualize what the different active treatment options would be like?	
Original and adapted CODE Framework items in Primary Appraisal Section				

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APPENDIX 2: Application of CODE

DELIBERATION									
	Health Threat	Choice	Options	Preference Construction	Decision	Consolidation			
(Re)-Appraisal	Cognitive	What does choice mean? How long do I have to decide? Who can decide? Why is there a choice? How do I feel about choosing?	What are my options, what do they involve? What are the risks and benefits? What would happen if I wait? How would this affect my life? Do I have experiences that could help me imagine what it would be like/feel like? What did others decide? How do I feel about this option?	Is this the right time? Is this option congruent with my families/partners/doctor, beliefs, goals and values? Do I feel ready? How likely is it that I will experience regret?		Was this the right choice? Why? How may future events affect my feelings about this choice? How do I feel about this choice now?			
	Primary Appraisal								
	Emotional								
Coping	Problem Focused	Can I find out more? Can my physician help? Can I talk to my family / friends? Can I change how I feel about this? Can I find strength in my faith? Can I express my fear? Could I ignore this information?	Can I deal with choosing myself? What support do I have? Can I transfer this decision? Could I refuse to choose this option? Could I defer the choice?	Are there any more alternatives or additional actions I could take? Can I seek support/information elsewhere (e.g. charities, patient support groups, religious guidance)? Would any family/ partner support me if I choose this option? Could I defer the choice?		Can I still change my mind? Who can support me? What can I do to minimize regret? Can I distract myself? Can I use relaxation? Can I find strength in my faith?			
	Secondary Appraisal								
	Emotion Focused								
Coping	Problem Focused	I will decide myself I will decide with my doctor I will discuss this with my partner, family and/or friends I will let my doctor make the choice for me I won't choose right now	I will find out all I can One option is clearly better for me than the others I will discuss this my clinician I will discuss this with my partner, family or friends I feel confident I won't look at the options in more detail	I am fully informed and ready I have discussed this with all the people involved I have the support of my clinician / partner/family/ friends I feel confident		Can I pick another option at any time? I avoided the same fate as... (relative or friend who experienced the disease) My decision was well thought through I won't think about this anymore			
	Coping Strategies								
	Emotion								

See Figure 2. (Witt et al., 2014)

APPENDIX 3: Announcement to Providers

Dear Providers,

Do you know or treat a woman with Attention Deficit Hyperactivity Disorder (ADHD) who is between the ages 18-40 and has delivered a baby in the last 5 years?

I am asking for your help identifying women with ADHD between the age of 18-40 and has delivered a baby in the last 5 years, and may be eligible to participate in a survey about their coping experience during pregnancy. The aim of the study is to gather information about women's perspective coping with ADHD during pregnancy.

Eligibility Requirements:

Women diagnosed with ADHD

Between the ages 18-40

Delivered a baby in the last 5 years

Survey Details:

Participants can enter a drawing for a \$25.00 Target gift card

21-23 questions about their experience and 8 demographic questions.

Approximately 15-20 minutes to complete

Survey Qualtrics to ensure security- and NO identifiable information is asked.

Ways to share information about the study:

Our Website: www.adhdandcoping.com

Recruitment Flier (attached) – To hang up or distribute

Create a new email and copy the survey link below:

[Click here to take the survey!](#)

APPENDIX 4: Consent

University of North Carolina at Chapel Hill Information about a Research Study

IRB Study # 14-2989

Title of Study: Coping with Attention Deficit Hyperactivity Disorder During Pregnancy

Principal Investigator: Jessica Sparrow

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What are some general things you should know about research studies?

You are being asked to take part in a research study. To join the study is voluntary.

You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies. Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the

researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?

There is limited literature to describe how ADHD manifests during pregnancy, nor are there standard guidelines to address management of ADHD when a woman becomes pregnant.

Pregnant women are often faced with choices for how to manage their ADHD symptoms if they stop medication during pregnancy. There exists little in the literature describing a woman's coping process during this time. These interviews are intended to provide preliminary information that will assist with the development of a pilot study to gain more information about the management of ADHD symptoms during pregnancy.

The purpose of this research study is to obtain information about how women cope with their ADHD symptoms during their pregnancy.

You are being asked to be in the study because you are a woman diagnosed with ADHD, between the ages of 18-40 and delivered a baby less than 5 years ago.

Are there any reasons you should not be in this study?

You should not be in this study if talking about your coping experience with ADHD during your pregnancy would make you feel uncomfortable or distressed.

How many people will take part in this study?

There will be up to three women who will participate in this study.

How long will your part in this study last?

Participation in this study will include one interview, which will last approximately 60-90 minutes with the option of a follow up interview within 14 days, if you choose.

What will happen if you take part in the study?

Overall Design:

You will be called by Carolina Outreach to schedule an interview

During the interview with Ms. Sparrow you will be assigned a pseudonym. You will be asked a series of questions about your ADHD experience and decision-making during your pregnancy.

Though your participation is required for you to be involved in this research study, it is not required for you to answer each question; you may skip a question, or stop the interview at any time with no repercussions. At the end of the research study you will be given the opportunity to schedule a follow up interview within 14 days from the date of the interview.

What are the possible benefits from being in this study?

You will not benefit personally from being in this study. The information gained from the study will be used to assist with the development of a pilot study in which more women will be interviewed to share their experiences.

What are the possible risks or discomforts involved from being in this study?

There are no known risks to this study. However, it is possible you may experience emotional discomfort as you describe your experiences of coping with your ADHD symptoms during pregnancy, if those experiences were negative. If this were to happen you should report this to Ms. Sparrow.

What if we learn about new findings or information during the study?

You will be given any new information gained during the course of the study that might affect your willingness to continue your participation.

How will your privacy be protected?

The following are confidentiality practices that will be implemented to increase the level of confidentiality and maintained throughout this study: The principal investigator (Jessica

Sparrow) is the only person who will be knowledgeable of your identifiable information. No other person related to this study will see any identifying information and it will never be transcribed or recorded. You will be assigned an alias and your real name will never be disclosed. Data collection instruments will not contain any identifying information.

You will not be identified in any report or publication about this study and no voluntary disclosures will be made. A digital voice recorder will be used to record the interview, and after the interview, your audio recording will be moved to password-protected computer and saved in a unique password-protected file. The information will be digitally transcribed by Ms. Sparrow and also saved to a password-protected computer in a password-protected file. Ms. Sparrow will be the only person to have access to these transcribed documents. During transcriptions, all identifying names, titles, and characteristics will be omitted or substituted for fictitious ones. The recordings will be deleted after the transcription process is complete, no later than three days after the interview. References or quotations from the transcripts may be used as content in the final paper for this project, but these, too, will contain no identifying information. Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. Ms. Sparrow also has the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.

Will you receive anything for being in this study?

You will be receiving a \$40.00 Target gift card for taking part in this study.

Will it cost you anything to be in this study?

If you enroll in this study, you might have costs, which include:

Travel expenses and childcare that incur because of your participation in this study.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study (including payments), complaints, concerns, or if a research-related injury occurs, you should contact Ms. Sparrow, listed on the first page of this form.

What if you have questions about your rights as a research participant?

A committee that works to protect your rights and welfare reviews all research on human volunteers. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board at 919-966-3113.

APPENDIX 5: Semi-Structured Interview

1. How old were you at your last pregnancy?
2. Did you work or were you a student during your last pregnancy?
3. What race or ethnicity would you identify yourself as?
4. Tell me about the support you had at home? (explore who she was in a relationship with and who she lived with)
5. When were you diagnosed with ADHD?
6. Prior to becoming pregnant how was your ADHD managed/treated?
7. Did you have to make a choice about continuing or discontinuing your stimulant medication when you learned you were pregnant?
8. If answered yes to #7: How did you feel about making the choice to continue or discontinue your stimulant medication?
9. What was your understanding of how your ADHD would be managed once you become pregnant?
10. Tell me about what your ADHD symptoms look like to you?
11. Did you feel like your symptoms were different during your pregnancy?
12. Did you feel like your symptoms were well managed with stimulant medication before you became pregnant?

13. Which part of your life (Work, Home, Social, Spiritual) did you believe would be affected the most because of your ADHD symptoms during your pregnancy?
14. When you began to think about how to manage your ADHD during pregnancy, were you aware of any risks associated with not managing/treating your ADHD symptoms?
15. Were you aware of any other management or treatment options for your ADHD symptoms, other than stimulant medication, that were safe to use during pregnancy?
16. Was there anything that you can recall that would alert to you that your ADHD wasn't being managed?
17. Looking back on your pregnancy did you feel like you were able to manage these symptoms? If so, how?
18. Did you have any physical, emotional, spiritual needs? If yes, describe how well these needs were met.
19. What was the most influential factor in your decision to manage or treat your symptoms (x,y,z treatment) during your (first, second, third) trimester?
20. As you think back, would you do anything differently? If so, what?
21. What factors helped you make a decision that you were at peace with?
22. Is there anything else you would like to share with me that will help me understand your experience of coping with ADHD during pregnancy?

APPENDIX 6: Survey Questions

*Bolded headings are only included for clarity and would not be included on the survey.

Screeners Questions:

1. Have you been diagnosed by a healthcare provider with Attention Deficit Hyperactivity Disorder (ADHD)?
 - a. Yes
 - b. No
2. Have you delivered a baby in the last 5 years?
 - a. Yes
 - b. No
3. What was the date of your last delivery? (mm/dd/yyyy)
4. What is your current age? (1-9999 numerical value)

Survey Questions:

Instructions: Please answer the following questions based on what you experienced during your most recent pregnancy.

- 1) Was this your first delivery?

- a) Yes

b) No

2) Did you take any prescription medications for ADHD at any time during your last pregnancy?

a) Yes

i) → If you can remember the name please list in the space provided (Free text)

b) No

3) During your last pregnancy, did you experience anxiety or depressive symptoms that you or those closest to you were concerned about?

a) Yes

i) → Did you discuss these symptoms with a healthcare provider?

(1) Yes

(2) No

b) No

4) Following your last delivery, were you ever diagnosed with Post-partum Depression or Baby Blues?

a) Yes

b) No

5) How much weight did you gain during your last pregnancy?

a) 0-25 pounds

- b) 26-50 pounds
- c) More than 50 pounds

For each type of support listed below, please indicate in the **first column** whether you **needed this type of support** during your last pregnancy.

If you answer **yes** to needing support, then indicate in the **second column**, the **degree to which your need was met**.

Type of Support	Did you need this type of support?		To what extent was this need met? ONLY IF "YES" ANSWERED			
	Yes	No	Not at all	Only a little	Mostly	Completely
Emotional Support						
Physical Support						
Financial Support						
Spiritual Support						

6) During your pregnancy, which of the following ADHD symptoms did you have the most difficulty managing or coping with, if any?

- a) **Inattention** (carelessness, easily distracted, poor motivation, procrastination)
- b) **Hyperactivity** (fidget when sitting for long periods, difficulty relaxing or winding down during time alone, talking too much in social settings)
- c) **Impulsivity** (difficulty waiting your turn, often interrupt others when or finish someone's sentences)
- d) None

7) When you first learned you were pregnant how worried were you about managing your ADHD symptoms during the pregnancy?

- a) Not at all
- b) Somewhat worried
- c) Very worried

8) Which part(s) of your life were affected by your ADHD symptoms during your last pregnancy, if any? Check all that apply

- ☐ Work
- ☐ Home
- ☐ Neither

9) Which relationships were affected by your ADHD symptoms during your last pregnancy, if any? Check all that apply

- ☐ Romantic Relationship(s)
- ☐ Close friend(s)
- ☐ Family

☐ Neither

10) Did a healthcare provider ever discuss with you any treatment options besides medicine that could be helpful in managing your ADHD symptoms during your pregnancy?

a) Yes

b) No

11) Did you ever have concerns about how your ADHD symptoms would be managed during your last pregnancy?

a) Yes

i) → If you shared these concerns with a healthcare provider were you satisfied with how they were addressed?

(1) Yes

(2) No

(3) Never shared my concerns

b) No

12) Before you became pregnant, did you ever discuss with a healthcare provider how to manage your ADHD symptoms during your pregnancy?

a) Yes

b) No

13) During your pregnancy did you ever discuss with a healthcare provider how to manage your ADHD symptoms during your pregnancy?

a) Yes

b) No

14) Who was the most influential in your decision of how to manage your ADHD symptoms during your pregnancy?

- a) Mother, Sister or Grandmother
- b) Significant Other or Spouse
- c) Other Family Member
- d) Friend(s)
- e) Spiritual or Community Group
- f) Healthcare Provider
- g) Other _____
- h) None

15) Were you satisfied with how your symptoms were managed during your last pregnancy?

- a) Yes
- b) No
 - i) →Can you explain what you weren't satisfied with? (Free Text)

16) Looking back on your last pregnancy would you do anything differently?

- a) Yes
 - i) →Please explain what you would do differently (Free Text)
- b) No

17) Please share anything else you think is important about how you managed ADHD symptoms during your pregnancy. (Free Text)

Demographics:

1) Please specify your ethnicity. Mark all that apply

- ☐ White
- ☐ Hispanic or Latino
- ☐ Black or African American
- ☐ Native American or American Indian
- ☐ Asian / Pacific Islander
- ☐ Other _____

2) When you found out you were pregnant what was your relationship status?

- a) Married
- b) Living with a partner (but not married)
- c) Single (not married or living with partner)

3) At the time of your last delivery what was your relationship status?

- a) Married
- b) Living with a partner (but not married)
- c) Single (not married or living with partner)

4) What is the highest degree or level of school you have completed?

- a) No schooling completed

- b) Nursery school to 8th grade
- c) Some high school, no diploma
- d) High school graduate, diploma or the equivalent (for example: GED)
- e) Some college credit, no degree
- f) Trade/technical/vocational training
- g) Associate degree
- h) Bachelor's degree
- i) Master's degree
- j) Professional degree
- k) Doctorate degree

5) How old were you when you received your ADHD diagnosis?

- a) 7-13
- b) 14-18
- c) 19 or older

6) What was your employment status during your last pregnancy? Check all that apply

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Out of work and looking for work
- ☐ Out of work but not currently looking for work
- ☐ A homemaker
- ☐ A student

- ☐ Military
- ☐ Retired
- ☐ Unable to work

7) Have you ever been diagnosed with the following? Check all that apply

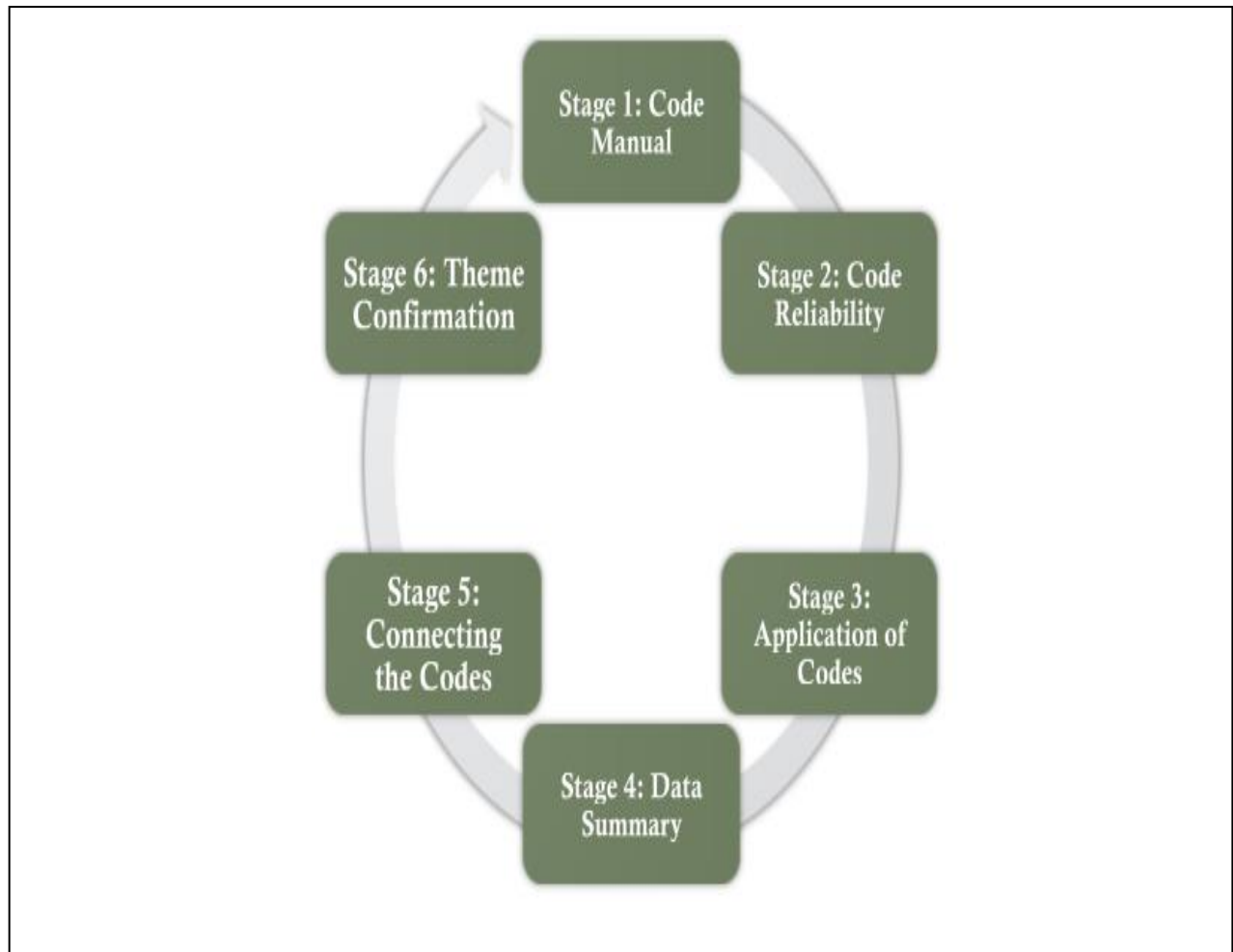
- ☐ Depression
- ☐ Anxiety
- ☐ Substance Abuse
- ☐ Bipolar, Eating Disorder
- ☐ Psychotic Disorder
- ☐ Personality Disorder
- ☐ None

8) During your last pregnancy, what type of healthcare coverage did you have, if any?

If you had different types of insurance, please indicate the one you had for most of your pregnancy.

- a) Insurance through a current or former employer
- b) Insurance purchased directly through an individual insurance company
- c) Medicare and/or Medicaid
- d) Tricare or other military health insurer
- e) Veterans Affairs (VA) or VA healthcare
- f) Indian Health Service
- g) Other
- h) I had no insurance

APPENDIX 7: Qualitative Analysis



APPENDIX 8: Code Manual

The code manual serves to provide a code name, definition and description for coding during data analysis.

Each code has a:

Label= the code name

The definition of what the code is

A description of how to know when and what warrants being coded.

The Process- 4 phases of deliberation

Health Threat

Label- P1 (Phase 1)

Definition- Presentation of health threat or disclosure of risk.

Description- Contemplation of risk associated with threat in context of identity, timeline, cause, consequences and what can be controlled.

Discussion of Choice

Label- P2 (Phase 2)

Definition- Introduction of choices where internal/external resources are described and discussed.

Description- The case weighs the risk/benefit, while also considering the emotions experienced with each choice or resource.

Preference Construction

Label- P3 (Phase 3)

Definition- Choices are interpreted by the case.

Description- Process of formulating a decision, heavily influenced by contextual factors and circumstances.

The Decision

Label- P4 (Phase 4)

Definition- A coping strategy is selected, either problem- or emotionally-focused

Description- Choices have been weighed, interpreted and the preferred choice is made.

Doesn't have to be a treatment decision, can be deferred to another person or avoided all together.

Consolidation

Label- P5 (Phase 5)

Definition- Deliberation beyond when the actual decision was made.

Description- A coping mechanism designed to defend a decision from regret in the future.

The Unit of Analysis- Coping

Pre-pregnancy factors

Label- Pre-Pregnancy

Definition- Pre-pregnancy contextual factors (Beliefs, Values, Goals, Past Experience, Social Support) and circumstances having influence on the case's coping.

Description- Broad range of factors existing before the case is pregnant that influence her decision-making at present.

Motivational Factors

Label- Value

Definition- Factors the case values or views as a personal priority.

Description- Motivator's for the case, which could be a range of factors: health, financial security, family support, physical affection, words of affirmation, etc.

Emotional Experiences

Label- Feeling

Definition- Any emotion expressed or deduced based on verbalization or behavior during the interview.

Description- Happy, Worry, Anger, Fear

Needs

Label- Need

Definition- Consciously unmet needs that detract from case's ability to deal with day-to-day situations or events.

Description- Taken from Maslow's (Citation) hierarchy of needs:

- Biological and Physiological needs - air, food, drink, shelter, warmth, sex, sleep.
- Safety needs - protection from elements, security, order, law, stability, freedom from fear.
- Love and Belongingness needs - friendship, intimacy, affection and love, - from work group, family, friends, romantic relationships.
- Esteem needs - achievement, mastery, independence, status, dominance, prestige, self-respect, and respect from others.
- Self-Actualization needs - realizing personal potential, self-fulfillment, seeking personal growth and peak experiences.

APPENDIX 9: Naomi CODE Application and Summary

Code Application	Support for code	Explanation	Notes:
Phase 1-Health Threat	<p>“PI: Now when you first found out you were pregnant where you excited about it N: I was excited about it but I was also scared like how am I going to do this, this is my first child. It felt weird but going through it was difficult, I had support but then I had other people aggravating me about it and the whole situation.” Pg. 1</p> <p>“PI: Did you know that during your pregnancy you would have to stop medication N: No I did not know that.” Pg. 5</p>	Here she is facing two threats. She states she didn’t know you had to come of medication (which she indicates has been helpful for her) and she faces the conflict (threat) of an unplanned pregnancy.	
Phase 2-Choices	<p>“PI: Did your provider ever talk about any treatment options other than medicine? N: The only medicine they gave me me was prenatal pills that was it that was all they gave me. ” Pg. 8</p> <p>“PI: Did you take anything just for a short amount of time N: Just the Latuda PI: Do you remember how</p>	From this statement you see that she didn't know/ explore any other options because of what the provider said. Here the provider plays a significant role in the access of information	Here the provider plays a significant role in the access of information... Caroline experiences this too with her OB/GYN

	<p>long you took Latuda</p> <p>N: Like 3-4 months</p> <p>PI: Do you remember why you prescribed the Latuda</p> <p>N: Mood stabilizer and to help me sleep better” Pg. 1</p>		
Phase 3-Preface Construction	<p>“No, they made me go off of it...the doctor said you can’t be on ADD medicine while you are pregnant” Pg. 13</p>	<p>From this statement you see that the provider’s knowledge is weighted it’s hard to grasp if she ever asked about other options or if there was more to this conversation based on the current transcript</p>	<p>It would have been good to explore if she pushed for more information</p>
Phase 4- The Decision	<p>“PI: So you stopped your medications</p> <p>N: Yes</p> <p>PI: Did you know that during your pregnancy you would have to stop medication</p> <p>N: No I did not know that “</p> <p>Pg. 4-5</p>	<p>The decision was made automatically upon hearing she had to stop her medications.</p>	<p>It would have been good to follow up with her about whether or not she explored other options.</p>
Phase 5- Consolidation:	<p>“What they could have put me on, even if it wasn’t that strong, but at least something to help control my ADHD and my impulses while I am pregnant</p> <p>PI: So it would have been helpful for someone to have actually talk to you about some options and try and manage it instead of just saying “Well there is nothing that we can do”</p> <p>N: Exactly” Pg. 16</p>	<p>You get a sense that she did struggle and perhaps would like to reevaluate her decision.</p>	<p>At this point she is “in the throws” of being un-medicated and pregnant...It would be interesting to see if her perspective changes once she has the baby.</p>
Need: \$\$	<p>“PI: When you were talking about the fight with Taye, you said about having the money and possibly over drafting your</p>	<p>Here she talks about over-drafting her account. Talking about needing money for a basic need food- this is</p>	

	<p>account, would you say that you needed some financial support</p> <p>N: I would say I just wanted the money so we could have gone to the grocery store to buy some groceries</p> <p>PI: Did you need more money at that time? Maybe not at that time but do you feel like during your pregnancy money was tight</p> <p>N: Yes because we both did not have a job and I had to ask for money just about every other week. “ Pg.7</p>	<p>a huge unmet need and significant stressor in caring for herself and her daughter.</p>	
<p>Need: Supportive Partner</p>	<p>“PI: Ok Tayes. What about your emotions. Did you feel supported during pregnancy?</p> <p>N: It was hard to say because I was stressed out a lot mainly because of his daughter’s mother.... There would be a couple of times where if he got mad he would go over there and stay the weekend and I am like ok... what was going on the whole time you was over there and I would get frustrated. “ Pg. 7</p> <p>“but sometimes its hard for me to want to tell him certain ...I feel like I can only tell him about it when he is about ready to drink, which I hate to say that, but that is when I feel he is going to listen to me and ...when I talk to him when he is sober he might be ok with it just a tad, but if he is about to drink he is a whole</p>	<p>It’s interesting that she projects her lack for support from her fiancé is because of his ex.</p> <p>The ex is clearly a significant player... but I think only because she has a difficult time saying... my fiancé’ needs to get it together.</p> <p>Her desire for a partner is so apparent through out this interview!</p> <p>She wants him to step up... and it seems like he is doing better this pregnancy than the last one... but they are about to have their circumstances</p>	<p>Barriers to experiencing a supportive partner:</p> <p>1) Partner’s continued involvement with another woman 2) has a child with this person 3) history of mental illness 4) history of anger management problems</p>

	<p>lot more lenient about it.”Pg. 14</p> <p>“...I am learning how to trust her now because knowing that he has a car he has no reason to be home late. When we didn’t have a car those days were scary because I would call him before catching the bus, because we knew exactly what time the bus would come at, so I would get scared if he wasn’t at the bus stop at the right time</p> <p>PI: Like for his safety or for fooling around</p> <p>N: I knew he wasn’t fooling around but I guess she figured that as long as he was over there he could make her spend the night, but he wouldn’t do anything with her because they had separate rooms.”Pg. 11</p> <p>“...One of the things I wish for at that time too is if he would miss his ride going home he would have called a cab and to make sure he had cab money just in case. That would have helped. Like if you know you are going to be late and you missed the bus take a cab home even if it cost money.” Pg. 11</p> <p>“He is helping me try and get in shape, which is hard while you are pregnant, but I can understand he still</p>	<p>change with another baby.</p> <p>She finds support in his desire for her to loose weight... you see her perspective. I wonder if she would feel more supportive if he invited her for walks or watched the baby so she could go to the gym.</p>	
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	wants me to be pregnant and loose the weight, which I can understand. When it comes to buying food he is very supportive with that too. He is very helpful with a lot of things especially when it comes to her” pg. 8		
Need: Transportation	“... That was one of the things I hated, but now that we have a car it is a whole lot easier, when he goes over there... he is not over there that long, when he didn’t have a car he would have to make sure he got on the bus at the right time and that was the scary part. I hated that because there would be nights where she would probably make him miss the bus just to talk to him, she would have a conversation with him to try and distract him so he would miss the bus and those nights I couldn’t take it because she would get mad at him if he was talking to me on the phone so yeah we had our battles during those times.”Pg. 7	You see here during the first pregnancy they don’t have a car... which means the fiancé has an excuse to stay later at the ex’s house and therefore this is a stressor for Naomi, though she says its for safety... its apparent that she worries about infidelity too! Therefore during this pregnancy now that there is a car it really changes her stress level about her fiancé going over to the ex’s this one variable makes a world of difference for her!	Its interesting how this one resource changes her circumstances and stress... imagine what things would be like if she had even more resources.
Need: Personal Safety	“...He was telling me and her that this was going to be the last time that he was going to be spending the weekend with her so he was coming home on Friday to get his clothes and then coming back on Sunday, which I was not happy with so we got into a fight and I told him to leave and he came back.. so the	She doesn’t herself describe abuse... but she does tip toe around his anger issues and changes her behavior to control his anger	

	<p>police told him to leave so he left and he came back to the house and that was the worst, because he came back and he was angry and he was doing pushups...I am not letting you go and my mother called the cops.” Pg. 6</p> <p>“N: The first time they sent him to the hospital was because he was tearing things up in the house and he was in the hospital for a month. Then he went to jail again because he had assaulted me.” Pg. 6</p> <p>“but sometimes its hard for me to want to tell him certain ...I feel like I can only tell him about it when he is about ready to drink, which I hate to say that, but that is when I feel he is going to listen to me and ...when I talk to him when he is sober he might be ok with it just a tad, but if he is about to drink he is a whole lot more lenient about it.”Pg. 14</p>		
Need: ADHD symptom management	<p>PI: During this pregnancy, now you know more, where you as worried as how you would manage your ADHD</p> <p>N: I was so stressed I didn’t even know, and now it is like I feel like managing it, one thing I hate is the fact that sometimes I feel like I can’t focus like there are a lot of times I will get my impulses but I was proud of myself yesterday because I</p>	<p>This need to “hold it together” is really a daily struggle for her. Just showering herself or making sure she doesn’t impulsively spend money... which would impact her financial needs... ineffectively managing her symptoms has a significant impact on the level of her daily</p>	<p>Further complicated with co-morbid psychiatric illness</p>

	got money yesterday and I haven't spent it yet, I was proud because I said I wasn't going to spend it today I was going to spend it tomorrow, I am going to get what I really want to get. Usually my impulses would make me spend it automatically without even thinking about it. Another thing with dealing with her my focus too, is in the beginning, I am good with hygiene with me but not with her but I am trying to do better with that."Pg. 9	functioning	
Need: Healthy Lifestyle	<p>"PI: Looking ahead if you could do things differently with this pregnancy, would you do anything different like about how you managed your mental health?</p> <p>N: If I really could I would try and get out to walk more and try and walk every day and know I have no excuses on why I can't walk because I know I can and maybe try to eat better too.." Pg. 15</p> <p>"...now ever since she has lost all this weight and she is giving me her clothes and I can't get over the fact that she had lost all that weight because she is very motivated, she goes walking every day and she even tries to go to the gym too and that is why I try and get out to walk too" Pg. 15</p>	<p>She makes several comments throughout the interview about wanting to be active and the desire to lose weight.</p> <p>She wants to be motivated but she's has difficulty putting this into action. She identifies the lack of ADHD medication as being a reason for her lack of motivation</p>	
Feeling:	"...I am hoping by the time	Not feeling	

Disprove s of physical appearance	I have my next child I can get back into shape because I don't like how I am now..." Pg.10	good about her weight seems to weigh heavy on her mind	
Value: Spirituality	<p>"PI: If you look as the spheres of your life: social, work (school), home life and spiritual, what of those four things do you think is most impacted by your ADHD symptoms when you are pregnant N: My spiritual. The reason I say that is because I try to go to church as much as I can but my brain is telling me to go to church Sunday but I don't know if I am going to want to get up and that is what hurts because I am so spiritual and I want to go to church." Pg. 14</p> <p>"I want to raise my kids in something I was raised in" Pg. 14</p> <p>"...reaching out to God for help. That is what I can say really helped me out a whole lot. Like I said, I like coming to therapy because I can talk about what is going on and I like going to church because I feel like I can talk about what is going on too" pg. 18</p> <p>"I am trying to get myself to go every Sunday but something always stops me and I don't like that because I want to raise my kids in the religion ...I need to start going to one because I want my</p>	<p>She emphasizes her spirituality as something very important to her...</p> <p>We see how important this aspect of her life is... church is like therapy for her.</p>	<p>However, it almost seems like she interpreted the question as what is most important to you... because I would say that impulsively spending my grocery money or being un motivated to play with my daughter (which she talks about earlier) are more significant</p>

	daughter to be raised in one, I want my stepdaughter to be raised in one and I want my next child to be raised in one....”		
Value: Support Presence	<p>“PI: So during that time who would you say was your most supportive person</p> <p>N: My Godmother was, she still is to this day</p> <p>PI: What is her name</p> <p>N: Tanya. She has been very supportive. She supports to the point where she considers me a daughter to her and [her daughter] as a granddaughter to her. The good thing about her is she went with me when to find out what I was having and she is going to go with me when I find out what I am having with this one so it has been a big help. “ Pg. 6</p>	<p>Its interesting how she views support... the fact that she was present for the gender sonogram was really significant to her.</p>	<p>It would be interesting to look at what support means at different socioeconomic levels...</p>
Value: Therapist	<p>PI: Are you seeing a therapist?</p> <p>N: Yes</p> <p>PI: How often do you see her?</p> <p>N: I see her every Thursday</p> <p>PI: Ok so once a week</p> <p>N: Yeah</p> <p>PI: Has that been helpful to you</p> <p>N: Yes very helpful</p> <p>PI: Does she help you do a better job at taking a hold of your thoughts and redirecting.....</p> <p>N: We were just talking about how I had been</p>	<p>She talks somewhere else about how important the mere talking part is important to her.</p> <p>You see how the therapist helped Naomi in some of the day to day activities</p>	<p>Validation/affirmation was also important to Caroline too!</p>

	trying to straighten up my house, like I didn't realize last week I had a pile of clothes that had to be done, I finally got my clothes done, got my vacuuming done, got my dishes done and I was so happy. I was so happy to have my house looking like it should be..”Pg.9		
Value: Family Support	“N: My parents are very supportive with what is going on and very supportive of this pregnancy, my godmother is very supportive of me when it comes to all of this and it actually makes it easier...” Pg. 9	This support makes things easier for her	
Value: Active Lifestyle	“if I am not doing anything, I might take her to the park like I told her today if it is still nice out when we get home we will go to the store and then we will go to the park because I want her to start going to the park, I want her to be active...”pg. 10	You see she wants good things for her daughter and herself.	If she follows through on this it could build her confidence about herself and her abilities.
Value: Godmother	PI: As far as talking to you psychiatric provider or your OBGYN and things like that, who helped you make decisions about how to care for your ADHD symptoms? Like your mom, dad, you, godmother N: I am going to say mostly me and my godmother and my mother because my god-sister also had a learning disability too.” Pg.12	We see in these two instances the godmother is important because she can relate to Naomi, since she has a daughter with a learning disability, and provides for Naomi. I would guess that since money is tight the fact that she buys clothes is significant...	... This made me think about support... to me support wouldn't be these things... but perhaps its because her basic needs aren't met so it would be interesting to see what type of support would be important to her

	<p>“N: They call and check up on me. For instance her godmother got her pajamas for Christmas and for her birthday her godmother got her an outfit and some money and my godmother and my godmother’s sister had given her some money.” Pg.13</p>		
Value: Medication	<p>“..PI: When you are on your medication do you feel you are less impulsive? N: Yes I think much clearer.”</p> <p>“PI: Now we have talked about what it looks like when feel like your ADHD isn’t managed, are there specific things that clue you off like “oh this is totally different, if I was on my medication I wouldn’t be like this”</p> <p>N: Sometimes I feel like that. Sometimes I feel like if I was on my medication and I was taking it every day I want to be more active, be more out of the house because I am in the house all the time. I used to have a structure everyday with [my daughter] or we would go out every day and just take a walk and come back to the house, and I feel like I don’t even want to do that anymore.”Pg. 14</p>	<p>We see here that the medication is a huge resource for her... and that taking the medication away does impact her ability to manage her impulses the most significantly</p>	
Value: Easier Healthcare Access	<p>PI: You talked about your OB person with your first pregnancy wasn’t as supportive as the person you have now...</p>	<p>Having to see two different doctors seemed like a difficult transition for her during her first</p>	

	<p>N: Well the differences that I don't like the fact how Duke couldn't deal with my high risk so they had to send me to Duke prenatal care unlike the place I am at now, even though I am high risk they can still treat me even though I am high risk and I like that. Also the fact that the doctor that I have now she is both of our doctors me and [my daughter] so that helps" Pg. 16</p>	<p>pregnancy. So now, this pregnancy she has a different experience, a more positive experience.</p>	
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APPENDIX 10: Caroline CODE Application and Summary

Code-Application	Support for code	Explanation	Notes:
Phase 1-Health Threat (Pre pregnancy)	<p>“I guess I knew you just had to go cold turkey and it is funny, I mean we probably would have tried to get pregnant 1-2 years earlier but I was in such a crazy place at work and the thought of not having my crutch, my medication, to make sure that I was able to do the things I needed to do to support Stephen and I was just not an option, I just couldn’t risk that so we literally put off having children because I was not at a place that I could take that risk with work and with everything that we had going on. ” Pg. 5</p> <p>PI: When you first found out that you were going to have a baby, where you ever worried about how you would manage your ADHD symptoms during your pregnancy</p> <p>C: Oh yeah</p>	<p>The risk was contemplated well before it became an actual threat. A threat so large that it postponed her having a family.</p> <p>But clearly she acknowledges the risk to her and her wellbeing.</p>	<p>Interesting significance... waited to have children because she didn’t want to risk any compromise to her career.</p>
Phase 2- Choices	<p>PI: Did a provider ever have a conversation with you before you got pregnant that that might have led you to think they would recommend for you to stop your medication?</p> <p>C: Yes. But I mean. I guess. I don’t know I feel like it is such an awkward conversation. Once you become an adult people really stop talking to you about it, so there is a bit of an embarrassment to it to but I</p>	<p>Although she says this conversation took place it doesn’t seem like she received any information about choices and perhaps she didn’t probe because in her mind there weren’t any other choices.. this is what you need to do to have a healthy</p>	

	<p>was kind of embarrassed to just also say I would like to get pregnant but I am worried how it will effect work and all sorts of things if I stop my medication.</p> <p>Pg. 2</p>	pregnancy.	
Phase 3-Preface Construction	<p>“The healthy pregnancy and having a healthy child was number 1 to me. SO whatever I had to do I would have done it and I tried to do it.” Pg. 5</p> <p>“..I mean we probably would have tried to get pregnant 1-2 years earlier but I was in such a crazy place at work and the thought of not having my crutch, my medication, to make sure that I was able to do the things I needed to do to support Stephen and it was just not an option, I just couldn’t risk that so we literally put off having children because I was not at a place that I could take that risk with work and with everything that we had going on..”Pg. 5</p>	The healthy pregnancy was what heavily influenced her decision and her workload the timing of when she was pregnant.	
Phase 4- The Decision	<p>“...and I just think my mentality was that I was just going to have to hunker through this and just figure out how I was going to manage for the next 9 months.” Pg. 3</p>	Here it seems like this strategy was selected years ago.	
Phase 5- Consolidation:	<p>“...It sounds silly saying that because now that I have her if I have to live the rest of my life taking anything just to have her I would do it. To be a different wife than I would I would do whatever I would have to do.” Pg.5</p> <p>“Well like #1 having a healthy child, she is happy, healthy and beautiful so that is so important to me. There is something to be said that as women we go through a lot.” Pg. 8</p>	Her healthy child was confirmation to her that she made a good choice. She made a deliberate choice to d/c her medication so that she would have a healthy baby... and she did. This was the outcome she planned for and reinforces the fact she made a “good” decision. Had her baby had defects	

		or she suffered greatly then perhaps she would have had a different perspective looking back.	
Need: Settled Home	“We moved Labor Day Weekend and then she was born on the 15 th ... Yeah. So it was kind of nuts and things that I love doing like decorating and putting stuff on the wall, I just was so overwhelmed that the thought of doing something so little like “lets put something on this wall today” was so overwhelming ...”	We see this was something she loved to do, but couldn't because of the baby. She only had so many resources.. and the baby was first.	Moved 2 weeks before had her baby.
Need: Continuity of Care	“My OBGYN never talked to me about Adderall or ADD or anything like that. I know it is in my record because they ask me what are you taking birth control and Adderall but it never got mentioned or brought up to me I just through education I know you cant take medication and I guess I didn't really probe them for support in that area cause I kind of felt like there specialty was in taking care of myself and the baby during pregnancy and you know just kind of like how you go to an ear, nose and throat you don't ask them about joint pain or...I just knew that wasn't really where I was going to get support and I just think my mentality was that I was just going to have to hunker through this and just figure out how I was going to manage for the next 9 months.”	You get a sense she wanted the provider to take be the “bridge builder” in helping her navigate the healthcare system. She didn't feel like she had the authority to bring it up... which is probably the case for a lot of women.	Although not verbalized- indicates that she would have liked for them to care for her ADHD too... but, she didn't ask. It makes me wonder if she would have felt more supportive having a psychiatric provider that she was continuing to see and who was collaborating with her OB provider. And... perhaps this conversation didn't come up because she saw her PCP for her ADHD medications whereas a

			specialist might have had more training and given different support.
Value: Encouraging Validation	<p>PI: What is the one support system that if you didn't have it you didn't think you could have accomplished all you did.</p> <p>C:" For me fortunately my family, my mom is number 1. We used to talk about it all the time. I would tell her if I let this slip today and I totally forgot about this and she would either tell me about a time that that happened to her or she would give me something relatable...." Pg. 7</p> <p>" ...</p>	Encouraging Validation: This type of support and affirmation was important and helpful to her.	Consistent Support or Affirming Encouragement
Need: Mgmt Information	<p>C: I would say that when you are pregnant, and I know we have talked about this with just each other, but to know what other options there are out there that are safe for you and safe for child, would that be medication or whether that would be just a recommended that during this time why don't you meet with someone bi-weekly or weekly. That stuff never really scared me, like "oh my gosh if I need to start talking to somebody than I must be really kooky and no one normal does that" So if it would have been recommended or suggested then I would have totally done that. I guess it is being in Raleigh and its not my hometown I never met with anyone here and so I never knew how to go about finding anyone and I know I could google it but I guess it is a private thing you do in general and it is not like "oh I like your hair. Who cuts it" it is just one of those things.</p>	<p>Mgmt Information:</p> <p>In this statement she talks about a two fold... 1) how if someone (sounds like she would have taken a friends word) had suggested other ADHD mgmt. options, like talking to someone it could have helped her face the challenges differently</p> <p>2) but just knowing there are other options doesn't connect you to them. Therefore we also need providers to list out the available resources as Caroline clearly states this</p>	

	<p>If it is not your medical provider, I mean they give you 90 million pamphlets anyway, that would have been one that would have really helpful and even feel comfortable talking to them about it which I talked to them about, I mean they would block 45 min for my 15 min appointment because I asked them questions all the time, but if they had just suggested it or said here is some information and if you are interested let us know or call this number than I would have totally taken them up on that.</p>	<p>resource is personal it's not like asking someone where they get their hair cut.</p>	
Feeling: Pregnancy Discomfort	<p>"...Part of it too was probably a personality change, I was just over being pregnant and over having cankles and hands that were so swollen they were bigger than my husbands, you know there were so many other factors that could have contributed to that like I am in a job that has so many spinning plates at one time.." Pg. 6</p>	<p>Pregnancy Discomfort: I think its important to remember that ADHD women experience all the "normal" emotions or discomforts of pregnancy... on top of the challenge of managing their ADHD.</p>	<p>Normal Pregnancy Symptoms= added discomfort</p>
Feeling: Good	<p>"I am back on my medication now and I feel like I am back to me again and it feels really good."</p>	<p>Good: This goes back to her identity and this statement of relief when she is back on her medication and "reacquainted" with her old self.</p>	<p>Identity perhaps in her work performance</p>
Feeling: Inept	<p>"PI: Do you feel like it impacted your self-confidence?</p> <p>C: Oh yes.</p> <p>PI: Because you were unable to perform the way you knew that you could</p>	<p>Inept: I almost get the sense that she feels disabled... she knows she can perform better but in this time period she can't and that is a different mentality then saying "yeah, I</p>	<p>Competitive work environment</p>

	C: Oh absolutely. All my peers, everybody there is like no, this is the first group of individuals that I am working with all the A+ students of the class. There are no C level workers where you feel like if you competed against them you know I am going to win because they don't care what they are doing....” Pg. 6	didn't perform like I could have but, this is only temporary I know that I won't always been struggling.	
Value: Healthy Pregnancy	C: The healthy pregnancy and having a healthy child was number 1 to me. SO whatever I had to do I would have done it and I tried to do it. Pg 5	Healthy Pregnancy: This statement clearly indicates that a healthy pregnancy was her top priority and therefore you see her decisions about d/c her medication are related to this.	
Value: Providing for my family	“..I mean we probably would have tried to get pregnant 1-2 years earlier but I was in such a crazy place at work and the thought of not having my crutch, my medication, to make sure that I was able to do the things I needed to do to support Stephen and it was just not an option, I just couldn't risk that so we literally put off having children because I was not at a place that I could take that risk with work and with everything that we had going on..”Pg. 5	Providing for my family: She has identified herself as the provider in the family and this carries a lot of weight in her decisions about managing her ADHD	
Value: Work Accolades	“..., I am back on my medication now and I feel like I am back to me again and it feels really good... at least during work and stuff like that I am able to hunker down and also become the performer I enjoy being and I have been recognized for being....” Pg. 6	Work Accolades: Here we see she identifies her work accolades as an important part of who she is.	
Pre-Pregnancy: Work Responsibilities:	“...its crazy because it is the perfect blend of what my weaknesses are which is multitasking and making sure that I complete projects, but it also keeps me energized and excited because it is never just a desk job. There are constantly new things	Work Responsibilities: You can see that this is a factor that heavily influences her- she talks about putting off her family	D: Because of the lack of sustained attention- maybe drawn to jobs that require multi-tasking to

	<p>going on and I can control the newness of what I do...”Pg. 6</p> <p>“I mean we probably would have tried to get pregnant 1-2 years earlier but I was in such a crazy place at work and the thought of not having my crutch, my medication, to make sure that I was able to do the things I needed to do to support Stephen and it was just not an option, I just couldn’t risk that so we literally put off having children because I was not at a place that I could take that risk with work and with everything that we had going on. “ Pg.6</p>	<p>because of work and alludes to the fact that she is possibly the breadwinner “ I needed to support Stephen”. You can see why this heavily influenced her decision</p>	<p>keep attention, however their not the nature of the disorder ADHD people don’t possess the natural traits needed to be successful. Medication helps bridge these deficits for ADHD people but without meds these deficits surface.</p>
Value: Normal Routine	<p>“...Honestly the first week of taking it after being pregnant I was very pleased, I was able to get out of the house, organizing myself in lists, and checking things off. For me it is the little things that make a big deal that I struggle with and so that was really helpful...”pg. 7</p>	<p>Normal Routine: This is motivating for her in the sense that she feels “normal” returning to the coping skills she has already established while she is on her medication. The key from this statement maybe that we need to support women with ADHD during pregnancy by helping them learn a new set of coping skills when they aren’t medicated... because from her experience her old “tricks” didn't necessarily work like they did when she was on meds.</p>	
Value: Overcoming a Challenge	<p>...” Everything that you physically and mentally go through and to look back now and see where I am now and how much I have gone through and how much I was able to do on my own but also through the support of others, that is pretty significant</p>	<p>Overcoming a Challenge: This seemed to be a confidence boost for her given the toll this experience had left on her self-esteem.</p>	

	and empowering for me.” Pg. 8	This perspective could impact her decision next time she decides to get pregnant.. “I’ve done it before successfully and I can do it again”	
Value: Support	“But my mom ...and family where all so supportive and they would constantly come in and taking breaks and cooking dinner, cleaning the house, unpacking boxes and things like that. That was really very comforting. You have to have a support system I feel like; at least for me personally that is what helped me stay sane.” Pg. 4	Support: In an earlier comment she talks about how her family and husband stepped up in ways she didn’t expect. They eased the burden for her and kept her “sane”.	

APPENDIX 11: Theme Confirmation

Theme: Lack of Prenatal Patient-centered Care		
Source	Quote	Notes
Caroline	<p>“...but it never got mentioned or brought up to me ...and I guess I didn’t really probe them for support in that area cause I kind of felt like there specialty was in taking care of myself and the baby during pregnancy ...I just knew that wasn’t really where I was going to get support ...”</p> <p>“[To] know what other options there are out there that are safe for you and safe for child, would that be medication or whether that would be just a recommended that during this time why don’t you meet with someone bi-weekly or weekly.”</p> <p>“...I think that would have probably been a benefit being pregnant and even after pregnancy with breast-feeding and everything like that.”</p>	OB/GYN continuity of care
Naomi	No, they made me go off of it...the doctor said you can’t be on ADD medicine while you are pregnant”.	Lack of conversation about options
Naomi	“... I don’t like the fact how...[they]... couldn’t deal with my high risk so they had to send me to another prenatal	First pregnancy had to see two different doctors for her prenatal care... but now goes one place. She emphasized

	care place unlike the place I am at now, even though I am high risk they can still treat me even though I am high risk and I like that”.	several times how much she valued this
Naomi	<p>“[To know] what they could have put me on, even if it wasn’t that strong, but at least something to help control my ADHD and my impulses while I am pregnant.”</p> <p>PI: Would have been helpful for someone to have actually talked to her about some options, she responded “Exactly”.</p>	Naomi is sharing that she needs some different support. In this quote, she is talking about medications, but I think it is important to highlight that she is verbalizing needing more from her provider.
Naomi	<p>PI: During this pregnancy, now you know more, where you as worried as how you would manage your ADHD</p> <p>N: I was so stressed I didn’t even know, and now it is like I feel like managing it, one thing I hate is the fact that sometimes I feel like I can’t focus like there are a lot of times I will get my ...Usually my impulses would make me spend it automatically without even thinking about it.</p> <p>Another thing with dealing with her (baby) my focus too, is in the beginning, I am good with hygiene with me but not with her but I am trying to do better with that.”</p>	We see this reflected again in this paragraph about significance
Theme: Primary Support		
Source	Quote	Notes
Caroline (referring to her mother)	I would tell her ...I totally forgot about this and she would either tell me about a time that that happened to her or she would give me	We see in this quote Caroline’s relationship with her mother and the support she receives from her that is so important during her

	something relatable. I remember she would cheerlead me “you are going to have this baby and you are going to be so happy when you have her”...She would always cheer me on “don’t worry you have one more month.”	pregnancy.
Caroline	“But my mom ...and family where all so supportive and they would constantly come in and taking breaks and cooking dinner, cleaning the house, unpacking boxes and things like that. That was really very comforting. You have to have a support system I feel like; at least for me personally that is what helped me stay sane.”	
Naomi	“My Godmother was, she still is to this day... She has been very supportive. She supports to the point where she considers me a daughter to her The good thing about her is she went with me when to find out what I was having and she is going to go with me when I find out what I am having with this one so it has been a big help.”	
Naomi	“...my godmother and my godmother’s sister had given her (her daughter) some money.”	
Theme: Mothering		
Source	Quote	Notes
Caroline	“The healthy pregnancy and having a healthy child was number 1 to me. So whatever I had to do I would have done it and I tried to do it.”	Healthy pregnancy and child

Naomi	<p>“I am trying to get myself to go every Sunday but something always stops me and I don’t like that because I want to raise my kids in the religion ...I need to start going to one because I want my daughter to be raised in one, I want my stepdaughter to be raised in one and I want my next child to be raised in one....”</p> <p>“reaching out to God for help. That is what I can say really helped me out a whole lot. Like I said, I like coming to therapy because I can talk about what is going on and I like going to church because I feel like I can talk about what is going on to.”</p>	Spiritual growth and development: this is very important for Naomi’s growth and feeling grounded that she wants her children to have the same foundation.
Naomi	reiterates this theme when sharing some of the behaviors she would like to change, for example “if I am not doing anything, I might take her to the park like I told her today if it is still nice out when we get home we will go to the store and then we will go to the park because I want her to start going to the park, I want her to be active...”	Wants children to be more active than her
Theme: Provider as the Barrier to Information		
Source	Quote	Notes
Naomi	<p>“PI: Did your provider ever talk about any treatment options other than medicine? N: The only medicine they gave me mY was prenatal pills that was it that was all they gave me. ”</p>	Full trust in provider

Naomi	“No, they made me go off of it...the doctor said you can’t be on ADD medicine while you are pregnant”	Takes this conversation at face value
Caroline	My OBGYN never talked to me about Adderall or ADD or anything like that. I know it is in my record because they ask me what are you taking birth control and Adderall but it never got mentioned or brought up to me I just through education I know you can’t take medication and I guess I didn’t really probe them for support in that area cause I kind of felt like there specialty was in taking care of myself and the baby during pregnancy and you know just kind of like how you go to an ear, nose and throat you don’t ask them about joint pain or...I just knew that wasn’t really where I was going to get support and I just think my mentality was that I was just going to have to hunker through this and just figure out how I was going to manage for the next 9 months.”	Wants the provider to bring this up... but doesn’t feel like she has the authority
Theme: Unmanaged ADHD Symptoms		
Source	Quote	Notes
Caroline	C: I would say that when you are pregnant..., to know what other options there are out there that are safe for you and safe for child, would that be medication or whether that would be just a recommended that during this time why don’t you meet with someone bi-weekly or weekly. That stuff never really scared me, like “oh my gosh if I need to start talking to somebody then	In this statement she talks about a two fold... 1) how if someone (sounds like she would have taken a friends word) had suggested other ADHD mgmt. options, like talking to someone it could have helped her face the challenges differently 2) but just knowing there are other options doesn’t connect you to them. Therefore we

	<p>I must be really kooky and no one normal does that”. So if it would have been recommended or suggested then I would have totally done that. I guess it is being in [this town] and its not my hometown I never met with anyone here and so I never knew how to go about finding anyone and I know I could google it but I guess it is a private thing you do in general and it is not like “Oh I like your hair, who cuts it” it is just one of those things. If it is not your medical provider, I mean they give you 90 million pamphlets anyway, that would have been one that would have really helpful and even feel comfortable talking to them about it which I talked to them about, I mean they would block 45 min for my 15 min appointment because I asked them questions all the time, but if they had just suggested it or said here is some information and if you are interested let us know or call this number than I would have totally taken them up on that.</p>	<p>also need providers to list out the available resources as Caroline clearly states this resource is personal it’s not like asking someone where they get their haircut.</p>
Naomi	<p>PI: During this pregnancy, now you know more, where you as worried as how you would manage your ADHD N: I was so stressed I didn’t even know, and now it is like I feel like managing it, one thing I hate is the fact that sometimes I feel like I can’t focus like there are a lot of times I will get my impulses</p>	<p>This is one of the few times where she uses the word “stressed” ... I think. Never the less this is a daily struggle.</p>

	<p>but I was proud of myself yesterday because I got money yesterday and I haven't spend it yet, I was proud because I said I wasn't going to spend it today I was going to spend it tomorrow, I am going to get what I really want to get. Usually my impulses would make me spend it automatically without even thinking about it. Another thing with dealing with her my focus too, is in the beginning, I am good with hygiene with me but not with her but I am trying to do better with that.."</p>	
Naomi	<p>"..PI: When you are on your medication do you feel you are less impulsive? N: Yes I think much clearer."</p> <p>"PI: Now we have talked about what it looks like when feel like your ADHD isn't managed, are there specific things that clue you off like "oh this is totally different, if I was on my medication I wouldn't be like this" N: Sometimes I feel like that. Sometimes I feel like if I was on my medication and I was taking it everyday I want to be more active, be more out of the house because I am in the house all the time. I used to have a structure everyday with [her daughter] or we would go out everyday and just take a walk and come back to the house, and I feel like I don't even want to do that anymore."</p>	Naomi articulates how helpful her medication was for her but hasn't really articulated this to her provider.
Caroline	"I am back on my medication now and I feel like I am back	

	to me again and it feels really good.”	
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